



# **2022 Annual Groundwater Monitoring Report**

**Pontiac North Campus**

August 2023

## 2022 Annual Groundwater Monitoring Report

### Pontiac North Campus

August 10, 2023

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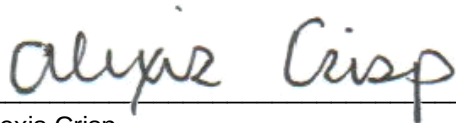
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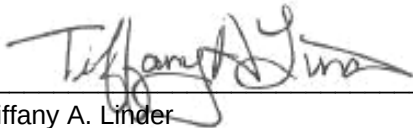
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## Acronyms and Abbreviations

|           |                                                                                           |
|-----------|-------------------------------------------------------------------------------------------|
| AOI       | Area of Interest                                                                          |
| DO        | dissolved oxygen                                                                          |
| EGLE      | Michigan Department of Environment, Great Lakes, and Energy                               |
| EI        | Environmental Indicator                                                                   |
| GLWA      | Great Lakes Water Authority                                                               |
| GMC       | General Motors Corporation                                                                |
| GM LLC    | General Motors LLC                                                                        |
| GMP       | Groundwater Monitoring Program                                                            |
| GSI       | Groundwater Surface Water Interface                                                       |
| LNAPL     | light non-aqueous phase liquid                                                            |
| MLC       | Motors Liquidation Company                                                                |
| NRDWC     | Nonresidential drinking water criteria                                                    |
| 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 |
| NRHBDW    | Nonresidential health-based drinking water                                                |
| ORP       | oxidation reduction potential                                                             |
| PCB       | polychlorinated biphenyl                                                                  |
| PCE       | tetrachloroethene                                                                         |
| PNC       | Pontiac North Campus                                                                      |
| RACER     | Revitalizing Auto Communities Environmental Response                                      |
| RCRA      | Resource Conservation and Recovery Act                                                    |
| RDWC      | Residential drinking water criteria                                                       |
| RFI       | RCRA Field Investigation                                                                  |
| 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    |
| SSPL      | Site-specific parameter list                                                              |
| TCE       | trichloroethene                                                                           |
| TCL       | target compound list                                                                      |

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|       |                                       |
|-------|---------------------------------------|
| TDS   | total dissolved solids                |
| TGMP  | Temporary Groundwater Monitoring Plan |
| ug/L  | micrograms per liter                  |
| USEPA | U.S. Environmental Protection Agency  |
| VI    | vapor intrusion                       |
| VIAP  | volatilization to indoor air pathway  |
| VOC   | volatile organic compound             |

# 1 Introduction

On June 1, 2009, General Motors Corporation (GMC) filed for Chapter 11 protection under the U.S. bankruptcy code. On July 10, 2009 GMC was renamed Motors Liquidation Company (MLC) and on the same day some of the operating assets of GMC, including a portion of the Pontiac North Campus (PNC), were sold to a newly formed company named “General Motors Company”. General Motors Company changed its name to General Motors LLC (GM LLC) on October 16, 2009. Assets not sold to GM LLC remained the property of MLC, in its capacity as debtor-in-possession in the bankruptcy case. Effective March 31, 2011, the Revitalizing Auto Communities Environmental Response (RACER) Trust was created through a Bankruptcy Settlement Agreement among MLC, the federal government, 14 states, and the St. Regis Mohawk Tribe. Ownership of MLC properties were transferred to RACER and RACER became responsible for completing remediation of those properties, including a portion of PNC (hereafter referred to as the Site) (**Figure 1**).

A water well restriction ordinance was adopted by the City of Pontiac on August 16, 2013, prohibiting the installation and use of groundwater wells at the Site and certain areas downgradient of the Site. Existing and planned deed restrictions do restrict and will restrict use of on-site groundwater for any purpose. PNC property parcels sold by RACER Trust include restrictions on groundwater use and prohibit the installation of groundwater wells as outlined in Declaration for Restrictive Covenant filed at the Oakland County Register of Deeds.

The Site Groundwater Monitoring Program (GMP) was presented as part of the Environmental Indicators (EI) CA 750 determination (ENVIRON 2002) to the United States Environmental Protection Agency (USEPA).

Groundwater samples have been collected from select monitoring wells on either a semi-annual or annual basis since 2002 as part of the GMP to demonstrate that constituent concentrations in groundwater are stable and that migration of contaminated groundwater is not occurring. Since 2002, several additional monitoring wells were added to the GMP at the request of USEPA. On October 30, 2009, MLC and GM LLC jointly submitted a request to the USEPA to modify the Site GMP, which USEPA approved on November 23, 2009 via email (**Appendix A**). On August 27, 2018, RACER Trust submitted a request to USEPA to modify the Site GMP, which USEPA approved on September 17, 2018 via email (**Appendix B**). Both the 2009 and 2018 modification requests included the removal of some monitoring wells/analysis from the GMP.

Based on comments from USEPA’s review of the 2018-2021 Annual Groundwater Monitoring Reports as well as the continued evaluation of groundwater, other modifications to the USEPA approved 2018 GMP are listed below.

- At USEPA’s request, the following wells were added to the 2019-2022 gauging list to better assess groundwater flow at the western portion of the Site:
  - Former Fiero Parking Lot Property piezometers PZF17-01, PZF17-02, PZF17-03, PZF17-04, PZF17-05.
- The following wells were gauged during the 2020-2022 monitoring events to better assess groundwater flow at the southern portion and south of the Site:
  - Duck Pond Property and off-site vicinity monitoring wells MWOS-05, MWOS-07, MWDP-1R, MWDP-3R, and MWDP-05
  - MWOS-08 is included in the Fiero TGMP and PZOS-02 was gauged during 2020 and 2021 but is not part of the routine annual GMP.
- The following wells were sampled in 2020-2022 and analyzed for additional constituents listed below to further characterize the distribution of groundwater contaminants:
  - Former Fiero Property downgradient off-site monitoring wells MWOS-01 and MWOS-02 were analyzed for total and dissolved manganese

- Former Fiero Property downgradient off-site monitoring well MWOS-03 was analyzed for total and dissolved vanadium and polychlorinated biphenyls (PCBs)
- Former Fiero Property replacement monitoring well MWF12-01R was analyzed for 1,4-dioxane and total and dissolved manganese, consistent with the 2018 GMP planned analysis of MWF12-01 which was destroyed in 2019.
- At USEPA's request, the following wells were added to the sampling list in 2021-2022.
  - MWM2-22, MWM2-28, and MWM2-37 were analyzed for VOCs.
- Based on a review of historical analytical results, five select off-site and Duck Pond monitoring wells were temporarily added to the 2022 sampling list. Additional information is provided in Section 3.2.1.
- In November 2021, MWF12-02 was found to be vandalized and destroyed during the annual inspections. MWF12-02 was replaced with MWF12-02R in January 2022, and analyzed for VOCs and total manganese during the 2022 annual groundwater sampling event.
- In November 2021, MWW5-01 was found to be damaged during the annual inspections. MWW5-01 was replaced with MWW5-01R in January 2022, and analyzed for VOCs, inorganics, PCBs and geochemical parameters during the 2022 annual groundwater sampling event.
- In 2020, MWM4-06R located in the northern portion of the Site at the Former Building 25 property appeared to have been “repaired” by the property owner and is no longer believed to be reliable for gauging purposes. This monitoring well is anticipated to be abandoned.

A comprehensive list of monitoring wells sampled during the 2022 annual groundwater sampling are provided in **Table 1** and includes relevant notes as to why specific wells were sampled or could not be sampled. The following sections of this report summarize the procedures used to complete the 2022 annual groundwater sampling and the analytical results for the groundwater samples collected during this event.

## 2 Groundwater Sampling Procedures

### 2.1 Water Level Measurements

Groundwater and light non-aqueous phase liquid (LNAPL) level measurements were recorded from selected monitoring wells on September 19, 2022, in accordance with USEPA Low-Stress (or Low-Flow) Purging and Sampling Procedure (USEPA 2017) and the 2018 GMP. For wells without LNAPL, groundwater levels were measured to the nearest 0.01 foot with a water level meter, and wells with LNAPL present were measured an oil/water interface probe. Groundwater elevations were calculated using surveyed top-of-well casing elevations. Equivalent groundwater elevations were calculated for wells where LNAPL was present. A summary of water levels, groundwater elevations and LNAPL thickness is presented in **Table 2**.

Due to factors such as accessibility and construction, the following deviations from the planned gauging protocol occurred during the 2022 groundwater monitoring event:

- At Area of Interest (AOI) W-8, monitoring well TW-11-02 was covered by a vehicle and was inaccessible during the entirety of the gauging event.
- At AOI M-2, monitoring well MWM2-37 was found to be damaged and therefore was not able to be gauged. Based on an evaluation of the damage it is unable to be repaired. This monitoring well is included in the 2018 GMP as a gauging only well and is not sampled.

- At AOI F-16, monitoring well MWF16-05, located in a low-lying area, was underneath pooled surface water and inaccessible during the entirety of the gauging event.
- In the north-central portion of AOI F-16, monitoring wells MWF16-10 and MWF16-11 were verified to be destroyed in March 2022, during Green for Life (GFL) construction activities. The wells could not be located using a surveyor, metal detector, and hand digging. This was summarized in a Proposed Fiero Well Abandonment Memorandum, dated April 8, 2022, and submitted to USEPA.

## 2.2 Groundwater Sample Collection

Groundwater samples for laboratory analysis were collected using low-flow sampling procedures on September 20 through October 4, 2022. The procedures are included in 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 the groundwater samples.

Groundwater samples were collected and submitted to Merit Laboratories, Inc. in Lansing, Michigan for analysis of target compound list (TCL) volatile organic compounds (VOCs) using USEPA Method 8260C, 1,4-dioxane using USEPA Method 8260B-SIMs, PCBs using USEPA Method E608.3 and select site-specific parameter list (SSPL) metals using USEPA Methods E200.8 and E245.1. Selected groundwater samples were also analyzed for geochemical parameters including calcium and magnesium utilizing USEPA method E200.8, alkalinity utilizing standard method SM2320B, hardness utilizing standard method SM2340C, and dissolved and suspended solids utilizing standard methods SM2540C/D.

Due to factors such as accessibility and recovery, the following deviations from the planned sampling protocol occurred during the 2022 groundwater monitoring event:

- At AOI W-10, monitoring well MWW10-SEN02 had insufficient groundwater available and, therefore; was not able to be sampled.

## 3 Groundwater Sampling Results

### 3.1 Groundwater Elevation

Groundwater elevations from unconfined water table zone monitoring wells (screened across the water table) were used to create a shallow groundwater potentiometric surface map (**Figure 2**). Monitoring wells included within the shallow unconfined unit are generally screened within fill material and/or glacial outwash deposits comprised primarily of sands and gravels across the Site. Apparent shallow groundwater flow across the Site is generally to the south and southwest; however, subsurface features (e.g., sewer lines, other man-made features, and re-worked native and fill material) may create localized effects (groundwater mounds or depressions), such as the perched zone on the Southeast side of the Former Fiero Assembly property. Due to the predominance of these localized effects in the vicinity of the parking lot north of the USPS building, it appears that groundwater elevations in this area are not representative of general Site hydrology and were not used to create contours on

**Figure 2.** Groundwater elevation data will continue to be evaluated as part of the annual groundwater monitoring program to monitor potential changes in groundwater flow direction.

## 3.2 Analytical Results

Groundwater data were compared to select criteria from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Clean Up Criteria Requirements Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, December 21, 2020 (EGLE 2020c). The select criteria were used as a frame of reference as the criteria are not necessarily applicable and those pathways may have been addressed or are not complete. The select criteria used for comparison with groundwater data associated with the Site include residential and nonresidential drinking water criteria (RDWC and NRDWC), groundwater surface water interface criteria (GSI), nonresidential health-based drinking water values for select constituents (NRHBDW), and residential and nonresidential groundwater volatilization to indoor air inhalation criteria. In addition, based on updated vapor intrusion (VI) guidance (EGLE 2020b) groundwater data from across the Site, with the exception the Former Fiero Property, was also compared to residential and nonresidential volatilization to indoor air pathway (VIAP) screening levels for groundwater not in contact. Furthermore, following the results of the 2019 Annual Groundwater Monitoring Report, development of site-specific VI criteria were requested from EGLE for comparison to monitoring wells located on the former Fiero portion of the Site (EGLE 2020a). These criteria include residential and nonresidential Fiero site-specific volatilization to indoor air criteria for basement (RFSSBASE and NRFSSBASE) and slab-on-grade (RFSSSOG and NRFSSSOG) scenarios. A detailed summary of Fiero analytical results was submitted to USEPA on April 21, 2023, in the 2022 Fiero Temporary Groundwater Monitoring Plan Summary Report (Arcadis 2023b).

A summary of the September 2022 annual sampling groundwater analytical data at the Site except for the former Fiero portion of the Site is included in **Table 3**, while groundwater analytical data for the former Fiero portion of the Site is included in **Table 4** given that site-specific criteria apply. Analytical data maps for the entire Site are presented on **Figure 3A** (VOCs and pH), **Figure 3B** (inorganics and total dissolved solids [TDS]), and **Figure 3C** (PCBs). Groundwater analytical data near the property boundaries of the Site are summarized on **Figure 4**. Note that analytical parameters which are listed on **Figures 3A, 3B, 3C, and 4** include only those parameters where a regulatory exceedance of promulgated criteria for RDWC, NRDWC, GSI, NRHBDW, or VI-related criteria or screening levels exists anytime in the timeframe from 2019-2022. For example, on **Figures 3A and 4**, no groundwater analytical results for Former Fiero Property monitoring wells sampled in this event have exceeded nonresidential Fiero site-specific basement/slab-on-grade criteria. Furthermore, on **Figure 4**, no groundwater analytical results for non-Fiero property monitoring wells sampled in this event have exceeded EGLE Part 201 generic nonresidential groundwater volatilization to indoor air inhalation criteria (EGLE 2020c). Therefore, in these instances, no such criteria or exceedances are referenced on the figures.

Of note, the RDWC and NRDWC for pH are aesthetic drinking water values. Several inorganics including copper, iron, and manganese have RDWC and NRDWC which are aesthetic drinking water values as well. The NRHBDW values associated with these inorganic constituents will be utilized for comparison as that value is more relevant.

All test results for this event for other target parameters which were analyzed and either not detected or detected at concentrations below specified criteria are included in **Tables 3 and 4**. To the extent that exceedances are realized in future years or promulgated criteria change resulting in additional exceedances, additional parameters will be added to the analytical databox figure in future reports as relevant. Laboratory analytical reports for the 2022 annual groundwater sampling event are included in **Appendix C**. Please note that some data related to the Fiero Temporary Groundwater Monitoring Plan (TGMP) are included in the laboratory data reports for the annual

sampling event due to timing of third quarter sampling for the Fiero TGMP. A summary of the data collected as part of the 2022 Fiero TGMP is summarized in the April 21, 2023, Fiero Temporary Groundwater Monitoring Plan Summary Report (Arcadis 2023b) submitted to USEPA.

Criteria used for comparison include those designed to be protective of potential exposures via drinking water use and groundwater interfacing with surface water and are conservative for evaluating the groundwater data from the Site. The criteria are being used to provide a point of reference for detected constituents. The Site and the immediate vicinity obtain potable water from the Great Lakes Water Authority (GLWA) and do not rely on local groundwater as a drinking water supply. In addition, a groundwater restriction ordinance prohibiting the use of groundwater wells in certain areas downgradient of the Site was adopted by the City of Pontiac on August 16, 2013. Therefore, groundwater with constituent concentrations higher than these generic screening criteria does not indicate that the groundwater poses unacceptable risks given the existing or planned groundwater use and other restrictions.

Given the existing or planned groundwater use, residential drinking water use is not a current or reasonably expected future use of groundwater at the Site or in the adjacent groundwater ordinance area. However, groundwater at the Site does have the potential to migrate off site based on the interpreted southwesterly groundwater flow direction. Due to the potential for off-site migration, RDWC, NRDWC, and GSI are used for screening data near the downgradient property boundary. In addition, deed restrictions have been or will be recorded for each Site parcel which prohibit building or occupying new structures without first assessing the volatilization to indoor air pathway or installing vapor mitigation measures. To evaluate exposure risks associated with the potential for groundwater to migrate off-site, applicable VI criteria are used for screening data near the downgradient property boundary as well.

The following is a summary of the September 2022 groundwater sample results focused on property boundary exceedances:

#### VOCs and pH (Figures 3A and 4)

- The concentrations of trichloroethene (TCE) detected in monitoring well MWF16-23 (17 ug/L) located in the northwest portion of the Former Fiero Powerhouse western boundary exceed the RDWC of 5 ug/L, NRDWC of 5 ug/L, RFSSSOG criteria of 15 ug/L, and RFSSBASE criteria of 8.1 ug/L.
- The concentration of tetrachloroethene (PCE) detected in monitoring well MW-02-17 (8 ug/L) located in the western portion of the Former Fiero Powerhouse southern boundary exceeds the RDWC of 5 ug/L and NRDWC of 5 ug/L.
- The concentrations of 1,4 Dioxane detected in monitoring well MWF12-01R (40 ug/L) located in the eastern portion of the Former Fiero Powerhouse southern boundary exceeds RDWC of 7.2 ug/L.
- The concentration of Vinyl Chloride detected in monitoring well MWM16-31 (2 ug/L) located in the south-central portion of the Former Building 25 southern boundary and MWM16-37 (2 ug/L) located at the north portion of the Former Building 15 Property exceeds RDWC and NRDWC of 2 ug/L.
- The pH readings for MWW1-04 (10.84), located at the southern property boundary just west of the Saginaw Street extension north of Montcalm Street, and MWOS-03 (6.45), located just southeast of MWW1-04, were out of the range of the RDWC and NRDWC of 6.5 to 8.5, and GSI criterion of 6.5 to 9.0. pH readings from all other wells sampled in the September 2022 event were within the RDWC, NRDWC and GSI pH range of 6.5 to 9.0.



#### Inorganics (Figures 3B and 4)

- The concentration of iron at monitoring wells TW-MD-02 (9,520 ug/L), TW-MD-03 (8,700 ug/L), TW-MD-04 (11,700 ug/L), TW-MD-05 (10,400 ug/L), TW-MD-06 (10,300 ug/L), and TW-MD-07 (16,800 ug/L) located along the southern portion of the USPS property exceeded the NRHBDW criteria of 5,600 ug/L.
- The concentration of total manganese and/or dissolved manganese at monitoring well TW-MD-03, located along the southern property boundary of the USPS property, exceeds GSI criteria of 1,300 ug/L.
- The concentration of vanadium in monitoring well MWW1-04 (7 ug/L) located along the southern property boundary of the former rail road property exceeds RDWC of 4.5 ug/L.

#### Total Dissolved Solids (Figures 3B and 4)

- All monitoring wells sampled for total dissolved solids (TDS) at the USPS Property for purposes of Montcalm Seep Control System monitoring exceeded the GSI criterion of 500,000 ug/L except for MWW1-04. This includes monitoring wells TW-MD-01 through TW-MD-07 which are located along the southern USPS property boundary. TDS concentrations exceeding GSI criteria ranged from 1,188,000 to 1,390,000 ug/L.

#### PCBs (Figures 3C and 4)

- The concentration of PCBs in monitoring well TW-MD-06 (0.6 ug/L) located in the southern portion of the USPS property exceeds the RDWC (0.5 ug/L), NRDWC (0.5 ug/L), GSI (0.2 ug/L), and Residential VIAP (0.031 ug/L).
- Monitoring well MWW1-04 located in the southwest portion of the USPS property contained a PCB concentration of (0.2 ug/L), which is at its GSI criteria (0.2 ug/L), and exceeds Residential VIAP (0.031 ug/L).

A data summary discussion of trends and conclusions regarding these results is provided in Section 4.0 of this report.

### **3.2.1 2022 Additional Groundwater Sampling**

Additional sampling was completed at select monitoring wells off-site and within the former stormwater detention facility (Duck Pond) in September-October 2022. Based on a review of historical data as part of a re-screening effort described in the Revised Draft CA Summary Report (Arcadis 2023c) re-submitted to USEPA in July 2023 and exceedances of criteria along the property boundary within the Montcalm Seep area identified in the 2021 Annual Groundwater Monitoring Report (Arcadis 2022) the following monitoring wells were sampled during the 2022 Annual Event: MWOS-04, MWOS-05, MWOS-06, MWOS-07, and SWDF-1. These select additional wells were monitored to verify older data collected from 2005-2007, and 2019-2020, as summarized in the 2019-2020 Duck Pond Groundwater Investigation Memo (Arcadis 2020), and to evaluate for exceedances of criteria offsite based on exceedances along the Montcalm Seep identified in the 2021 Annual Groundwater Monitoring Report (Arcadis 2022).

- MWOS-05, MWOS-06, and SWDF-1 were sampled in March 2020 for select inorganics and VOCs with no criteria exceedances.
- MWOS-04 (3/10/2005) and MWOS-07 (11/9/2007) were sampled in March 2005 and November 2007, respectively, and exceeded the 50 ug/L residential and non-residential criteria for Drinking Water for manganese. MWOS-04 had a concentration of 518 ug/L, and MWOS-07 had a concentration of 628 ug/L.



- Wells within Montcalm Seep and property boundary exceeded Residential Drinking Water Criteria for 1,4-dioxane (MW-07-17 and MW-40-99); Residential and Nonresidential Drinking Water Criteria for manganese and Nonresidential Health Based Drinking Water Criteria for Iron (TW-MD-01 through TW-MD-07 and MWW1-SEN04)
- TW-MD-06 and MWW1-SEN04 exceeded the Residential and Nonresidential Drinking Water Criteria for PCBs.

Monitoring wells MWOS-04, MWOS-05, MWOS-06, MWOS-07, and SWDF-1 were analyzed for 1,4-dioxane, inorganics, PCBs and phenanthrene. The analysis was selected based on historical and 2021 data as summarized above and phenanthrene was also added since it was a constituent that the Duck Pond wells were historically analyzed for. The following is a summary of analytical results that exceed criteria:

#### VOCs

- The concentration of 1,4-Dioxane in monitoring well MWOS-04 (35 ug/L) exceeds RDWC of 7.2 ug/L. However, the City of Pontiac Drinking Water Ordinance is in place to restrict the use of groundwater for drinking water.

#### Inorganics

- The concentration of manganese in monitoring wells MWOS-05 (1,460 ug/L), and MWOS-07 (1,930 ug/L) exceeds GSI criteria of 1,300 ug/L.
- The concentration of arsenic in monitoring well SWDF-1 (13 ug/L) exceeds RDWC, NRDWC, and GSI criteria of 10 ug/L.
- The City of Pontiac Drinking Water Ordinance is in place to restrict the use of groundwater for drinking water and select boundary and offsite wells are continued to be monitored for inorganics as part of the Site GMP.

A summary table and figure can be found in **Appendix D**. As indicated in the July 2023 Revised Draft Corrective Measures Summary Report (Arcadis 2023c), an evaluation will be completed following USEPA approval of the CA Summary Report and a revised GMP will be completed and submitted to USEPA for approval. Implementation of the revised GMP is expected for the 2024 annual sampling.

### **3.3 Analytical Data Quality Assurance / Quality Control**

For lab analysis quality control, one duplicate sample was collected for every ten (10) groundwater samples, and one (1) matrix spike/matrix spike duplicate (MS/MSD) was collected for every twenty (20) groundwater samples. Furthermore, one (1) trip blank was collected for each sample set which included analysis for VOCs apart from lab report numbers S40709, S40909, S40972 and S40973. 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 2022 annual groundwater sampling event.

Standard Level II laboratory analytical reports were delivered for each COC in laboratory data files received and electronic data deliverable (EDD) packages, followed by laboratory quality control reports. EDD files were uploaded to the Site 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 2022 annual groundwater monitoring data, there were no trip blank detections, and duplicate sample results were representative of matched samples.

A review was performed on nineteen (19) Level II QC reports for groundwater data collected during the 2022 annual groundwater monitoring event conducted in September/October, and all laboratory qualifiers were evaluated. Based on the review, several VOC results are estimated (J/UJ) due to laboratory control sample/laboratory control sample duplicate (LCS/LCSD) percent recoveries outside of control limits and/or LCS/LCSD relative percent difference (RPD) exceedances, and MS/MSD RPD exceedances. VOC results which are estimated include the following:

- Vinyl Chloride - MWM16-37, DUP-5 (collected from MWM16-37), MWM2-22 and DUP-03 (collected from MWM2-22)
- Benzene - DUP-04 (collected from MWM16-30), DUP-05 (collected from MWM16-37), MWM16-02, MWM16-30, MWM16-37, MWM31-02, TRIP BLANK\_01, MWM2-28, TRIPBLANK\_24, MWM2-22 and DUP-03 (collected from MWM2-22)
- Carbon Tetrachloride - DUP-04 (collected from MWM16-30), DUP-05 (collected from MWM16-37), MWM16-02, MWM16-30, MWM16-37, MWM31-02, TRIP BLANK\_01, MWM2-28, TRIPBLANK\_24, MWM2-22, and DUP-03 (collected from MWM2-22)
- Tetrachloroethene - DUP-04 (collected from MWM16-30), DUP-05 (collected from MWM16-37), MWM16-02, MWM16-30, MWM16-37, MWM31-02, TRIP BLANK\_01, MWM2-28, TRIPBLANK\_24, MWM2-22, and DUP-03 (MWM2-22)
- cis-1,3-Dichloropropene - DUP-04 (collected from MWM16-30), DUP-05 (collected from MWM16-37), MWM16-02, MWM16-30, MWM16-37, MWM31-02, TRIP BLANK\_01, MWM2-28, TRIPBLANK\_24, MWM2-22, and DUP-03 (collected from MWM2-22)
- trans-1,3-Dichloropropene – DUP-04 (collected from MWM16-30), DUP-05 (collected from MWM16-37), MWM16-02, MWM16-30, MWM16-37, MWM31-02, TRIP BLANK\_01, MWM2-28, TRIPBLANK\_24, MWM2-22, and DUP-03 (collected from MWM2-22)

VOC results that were qualified as non-detect (UB) due to method blank contamination include the following:

- 1,4-Dioxane - TW-MD-07

Metals results that were qualified as estimated (J/UJ) due to MS/MSD recoveries include the following:

- Iron - MWW1-15, MW-03-17, MW-04-17, and TW-MD-02

In summary, while the results for numerous VOCs and Iron from the 2022 groundwater sampling event are estimated, which introduces possibilities for both limited high or low bias. Reported constituent concentrations did not vary from past results outside of normal variability or indicate cleanup criteria exceedances or changes to the associated findings, conclusions, or recommendations in this report. Therefore, no material issues with laboratory analysis or reporting were identified which affects usability of any of the data.

## 4 Trends and Conclusions

### 4.1 Evaluation of Trends

Select key constituents detected in numerous events in both interior and property boundary wells were graphed to allow for evaluation of trends in groundwater concentration over time. These graphs are presented in **Appendix E**. Identified trends are as follows:

- The elevated pH of groundwater in MWW1-04, located along the southern property boundary of the rail road property, has consistently exceeded the GSI pH range of 6.5 to 9.0 since 2007. The pH ranged from 9.61 to 11.55 from 2017 through 2021, the pH reading in 2022 was 10.84. This characteristic is localized, as pH readings from other wells (MWOS-03 and MWW1-15) near and downgradient of MWW1-04 are within or near the GSI criteria limits. The uppermost portion of the well at MWW1-04 is screened across brick and gravel fill material which may be the cause of the elevated pH at this location.
- Vinyl chloride concentrations at MWM16-37, located on-site south of Columbia Avenue, have generally decreased since 2017. However, the most recent concentration from the 2022 sampling still exceeds RDWC and NRDWC criteria.
- The concentration of PCE at MWF7-02 located within the northern portion of the Former Fiero Powerhouse Property has been gradually increasing from 34 ug/L to 115 ug/L from 2018 through 2022. The PCE concentration exceeds RDWC, NRDWC and GSI but is below RFSSSOG and RFSSBASE. The concentration of TCE at MWF7-02 has remained relatively steady in concentration from 2016 to 2022 and does not exceed criteria. Trends of PCE and TCE in this monitoring well will continue to be monitored as part of the 2023 Fiero Temporary Groundwater Monitoring Plan (TGMP).
- The concentration of TCE at MWF16-23, located along the west-southwest portion of the Former Fiero Property, boundary remains relatively steady, ranging from 15 ug/L to 21 ug/L from 2017 through 2022. The TCE concentration exceeds RDWC, NRDWC, RFSSSOG and RFSSBASE. TCE trends in this monitoring well will continue to be monitored as part of the 2023 Fiero TGMP.
- At the far southwest corner of the Former Fiero Property, at MW-02-17, the concentration of PCE has generally fluctuated above and below a concentration which exceeds the RDWC and NRDWC of 5 ug/L. The concentration of TCE had a gradual increasing trend, but the 2022 result of 2 ug/L remains below the RDWC and NRDWC of 5 ug/L and RFSSBASE criteria of 8.1 ug/L. PCE and TCE trends will continue to be monitored in this well as part of the 2023 Fiero TGMP.
- The concentration of PCE at MWF16-06, located within the southeast portion of the Former Fiero Assembly Property, had increasing concentrations from 2017 through 2020, exceeding RDWC and NRDWC. During sampling through 2021, PCE has decreased from 130 ug/L to 56 ug/L, and in 2022 was 63 ug/L. PCE concentration exceeds RDWC and NRDWC but is below RFSSSOG and RFSSBASE. The concentration of TCE at MWF16-06 had increased between April 2017 and March 2021, from 11 ug/L to 30 ug/L. However, during more recent sampling events in June 2021 and October 2021, the concentration decreased to 5 ug/L and only exceeded RDWC and NRDWC. In 2022, the TCE concentration had slightly increased to 9 ug/L and exceeds RFSSBASE, but not RFSSSOG. Trends of PCE and TCE in this monitoring well will continue to be monitored as part of the 2023 Fiero TGMP.

- As depicted in **Figure 4**, multiple wells at the USPS property in the area of groundwater reinjection and along the southern boundary that have been analyzed under the GMP since 2018 continue to exceed RDW, NRDW and GSI. TDS was added to the groundwater monitoring program in 2018 only to be used as an indicator of radius of influence for the Montcalm Seep control system. In general, results appear to reflect increasing concentration trends from 2019 to 2022. Sentinel wells off-site (MWOS-01, MWOS-02, and MWOS-03) have been sampled to delineate GSI detections at AOI W-1. These sentinel wells have not had exceedances of GSI except for pH at MWOS-03 in 2022, which has a pH of 6.45. MWOS-3 is downgradient from MWW1-04, which exceeded GSI with a pH value of 10.84. Results may reflect increasing trends of TDS, iron and manganese in USPS wells located in the area of the Montcalm Seep Control System groundwater reinjection, but these concentrations are not expected to impact results at the property boundaries. Review of other groundwater data from annual sampling events does not indicate increasing trends in the interior of the Site that may impact results at the property boundaries.
- The concentration of PCBs at monitoring well TW-MD-06 (**Figure 3C and 4**) located in the southern portion of the USPS property has remained relatively steady from 2019-2022, and continues to exceed RDWC, NRDWC, and GSI. The concentration of PCBs in monitoring well MWW1-04 located further west along the south Site boundary has fluctuated above, below, and equal to the GSI criteria over the past few annual sampling events, with results equal to GSI criteria in 2022. Due to the low water solubility and leaching potential of PCBs, moderate to high partition coefficients (preferentially partition to organic matter in soils and sediments) (USEPA 2021), and distance to the nearest down-gradient surface water body, PCBs are very unlikely to migrate to Harris Lake. Off-site monitoring well MWOS-03, located north of Harris Lake, continues to be analyzed for PCBs to confirm on-site impacts do not pose a GSI risk to Harris Lake. Results have not identified PCB detections at this down-gradient location (**Table 2**).

## 4.2 Conclusions and Recommendations

As described in Section 3.2, based on updated VI guidance, groundwater data from across the Site, except for the Former Fiero Property, was also compared to Residential VIAP and Nonresidential VIAP screening levels for groundwater not in contact. Site-specific VI criteria developed in 2020 were also used for comparison to results from monitoring wells located on the Former Fiero Property. Consistent with the 2021 Annual Groundwater Monitoring Report, NRHBDW values were used for comparison for several inorganics including copper, iron, and manganese as these constituents had RDWC and NRDWC which represent aesthetic drinking water values. The NRHBDW values associated with these inorganic constituents were utilized for comparison as these health-based values are more applicable than the aesthetic values.

Although there were data fluctuations and certain criteria comparisons were added or changed throughout the years of monitoring, referenced exceedances did not change to the extent or suggest changes to the implemented or proposed interim/corrective measures at the Site. Assessment of the Former Fiero Property is currently on-going and reported in more detail in the Fiero 2023 Temporary Monitoring Plan (Arcadis 2023a).

As previously indicated, the Site and the immediate vicinity obtain potable water from the GLWA and do not rely on local groundwater as a drinking water supply. In addition, a groundwater restriction ordinance prohibiting the use of groundwater wells was adopted by the City of Pontiac on August 16, 2013, for the Site and certain areas downgradient of the Site. Therefore, groundwater with constituent concentrations higher than the generic drinking water screening criteria does not indicate that the groundwater poses unacceptable risks given the existing or planned groundwater use restrictions.

Although several groundwater samples within the Site contain concentrations of VOCs which exceed VI criteria, downgradient wells within the property or near the property boundary do not exceed those criteria. MWF16-23, located along the west-southwest Former Fiero Property boundary, has a TCE concentration that exceeds the Fiero site-specific VI criteria. Further to the south, the concentration of TCE in monitoring well MW-02-17 appears to be increasing but remains slightly below the Fiero site-specific VI criteria.

Following the 2019 Annual Groundwater Monitoring Report recommendations to develop site-specific VI criteria development for the Former Fiero Property, thirteen monitoring wells and 6 soil vapor monitoring points (SVMPs) have been installed to delineate potential downgradient off-site migration of TCE and PCE. Furthermore, source investigation activities have been initiated to further assess the vapor intrusion pathway and risk to off-site receptors. Reports summarizing activities and monitoring conducted for the Former Fiero Property have been submitted to USEPA under separate cover.

Except for TDS, other GSI exceedances in on-site wells are delineated by downgradient on-site and/or off-site wells which do not contain constituents that exceed GSI. TDS exceeds GSI criteria along the southern property boundary north of Montcalm Street.

Contingent on the results of implementing the recommendations below, groundwater data and trends continue to support USEPA's 2004 CA750 determination that migration of contaminated groundwater is under control for the Pontiac North Facility and the 2017 CA750 determination that migration of contaminated groundwater is under control for the former Pontiac Fiero Assembly Facility.

Based on the results of continued groundwater monitoring and current regulations and guidelines, the following recommendations are suggested:

- Continue the evaluation and Fiero TGMP to further assess the vapor intrusion pathway and risk to off-site receptors related to VOC concentrations detected in groundwater at the Former Fiero Property.

No changes are recommended to the annual groundwater monitoring program at this time. However, the program will be re-evaluated after reviewing 2023 results, PFAS sampling results, and after USEPA approves the Corrective Action Summary Report (Arcadis 2023c) submitted to USEPA in July 2023. Any recommended changes will be proposed and reviewed with USEPA prior to implementation.

## 5 References

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- Encore Environmental Consortium, LLC (EEC). 2001a. RCRA Facility Investigation (RFI) Work Plan, General Motors Corporation, Pontiac North Campus, Pontiac, Michigan. May, 2001.
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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.

USEPA. 2021. Exposure Assessment Tools by Chemical Classes - Other Organics. Dioxins, Furans, and PCBs. <https://www.epa.gov/expobox/exposure-assessment-tools-chemical-classes-other-organics>

# Tables

Table 1  
2022 Monitoring Well Gauging and Sampling List  
2022 Annual Groundwater Monitoring Report  
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| Well ID                  | Gauging | Analysis |             |                                    |      |                                                       |              | Monitoring Program | Reason for Change                                        |
|--------------------------|---------|----------|-------------|------------------------------------|------|-------------------------------------------------------|--------------|--------------------|----------------------------------------------------------|
|                          |         | VOCs     | 1,4-dioxane | Inorganics/<br>Metals <sup>1</sup> | PCBs | Geochemical per<br>Montcalm Seep<br>IMWP <sup>2</sup> | Phenanthrene |                    |                                                          |
| OFFSITE                  |         |          |             |                                    |      |                                                       |              |                    |                                                          |
| MWOS-01                  | A       | A        | --          | A - T/D Mn                         | --   | --                                                    | --           | GMP                | Additional analyses completed for investigation purposes |
| MWOS-02                  | A       | A        | --          | A - T/D Mn                         | --   | --                                                    | --           | GMP                | Additional analyses completed for investigation purposes |
| MWOS-03                  | A       | A        | --          | A - T/D V                          | A    | --                                                    | --           | GMP                | Additional analyses completed for investigation purposes |
| FIERO                    |         |          |             |                                    |      |                                                       |              |                    |                                                          |
| F-7                      |         |          |             |                                    |      |                                                       |              |                    |                                                          |
| MWF7-02                  | A       | A        | A           | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| F-8                      |         |          |             |                                    |      |                                                       |              |                    |                                                          |
| MWF8-01                  | A       | A        | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| F-12                     |         |          |             |                                    |      |                                                       |              |                    |                                                          |
| MWF12-01R                | A       | --       | A           | A - T/D Mn                         | --   | --                                                    | --           | GMP                | Additional analyses completed for investigation purposes |
| MWF12-02R                | A       | A        | --          | A - T Mn                           | --   | --                                                    | --           | GMP                | Replaced January 2022                                    |
| F-16                     |         |          |             |                                    |      |                                                       |              |                    |                                                          |
| MWF16-05                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| MWF16-06                 | A       | A        | A           | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| MWF16-10                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | Destroyed by GFL construction activities                 |
| MWF16-11                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | Destroyed by GFL construction activities                 |
| MWF16-16                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| MWF16-23                 | A       | A        | A           | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| MWF16-25                 | A       | A        | A           | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| MW-02-17                 | A       | A        | A           | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| MW-05-18                 | A       | A        | A           | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| Former Fiero Parking Lot |         |          |             |                                    |      |                                                       |              |                    |                                                          |
| PZF17-01                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | Location added for gauging purposes                      |
| PZF17-02                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | Location added for gauging purposes                      |
| PZF17-03                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | Location added for gauging purposes                      |
| PZF17-04                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | Location added for gauging purposes                      |
| PZF17-05                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | Location added for gauging purposes                      |
| DEMOLITION AREA          |         |          |             |                                    |      |                                                       |              |                    |                                                          |
| W-1                      |         |          |             |                                    |      |                                                       |              |                    |                                                          |
| MWW01-SEN03              | A       | A        | A           | A                                  | A    | A                                                     | --           | GMP                | --                                                       |
| MWW01-SEN04              | A       | A        | --          | A                                  | A    | A                                                     | --           | GMP                | --                                                       |
| MWW1-04                  | A       | A        | A           | A - T Sb, V                        | A    | A                                                     | --           | GMP                | Additional analyses completed for investigation purposes |
| MWW1-06                  | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| MW-40-99                 | A       | A        | A           | --                                 | A    | --                                                    | --           | GMP                | --                                                       |
| MW-01-17                 | A       | A        | A           | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| TW-01-01                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| TW-01-02                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| TW-01-03                 | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| MW-43-14R                | A       | --       | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                       |
| W-5                      |         |          |             |                                    |      |                                                       |              |                    |                                                          |
| MWW5-01R                 | A       | A        | --          | A                                  | A    | A                                                     | --           | GMP                | Replaced January 2022                                    |



Table 1  
2022 Monitoring Well Gauging and Sampling List  
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| Well ID          | Gauging | VOCs | 1,4-dioxane | Inorganics/<br>Metals <sup>1</sup> | PCBs | Geochemical per<br>Montcalm Seep<br>IMWP <sup>2</sup> | Phenanthrene | Monitoring Program | Reason for Change                                                                                       |
|------------------|---------|------|-------------|------------------------------------|------|-------------------------------------------------------|--------------|--------------------|---------------------------------------------------------------------------------------------------------|
| <b>W-8</b>       |         |      |             |                                    |      |                                                       |              |                    |                                                                                                         |
| TW-03-01         | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| MWW8-36          | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | Location added for gauging purposes                                                                     |
| MWW8-65          | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| RWW8-129         | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| RWW8-133         | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| TW-11-01         | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| TW-11-02         | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| TW-09-01         | A       | A    | --          | A                                  | A    | A                                                     | --           | GMP                | --                                                                                                      |
| TW-10-01         | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| TW-10-02         | A       | --   | A           | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| TWW8-01          | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| <b>W-10</b>      |         |      |             |                                    |      |                                                       |              |                    |                                                                                                         |
| MWW10-03         | A       | A    | --          | A - T Pb, Mn                       | A    | --                                                    | --           | GMP                | --                                                                                                      |
| MWW10-SEN01      | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| MWW10-SEN02      | A       | A    | --          | A                                  | A    | A                                                     | --           | GMP                | --                                                                                                      |
| SB-25-14         | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| RW-08-14         | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| <b>MFD</b>       |         |      |             |                                    |      |                                                       |              |                    |                                                                                                         |
| <b>M-2</b>       |         |      |             |                                    |      |                                                       |              |                    |                                                                                                         |
| MWM2-22          | A       | C    | --          | --                                 | --   | --                                                    | --           | GMP                | Additional analyses completed for investigation purposes                                                |
| MWM2-28          | A       | C    | --          | --                                 | --   | --                                                    | --           | GMP                | Additional analyses completed for investigation purposes                                                |
| MWM2-37          | A       | C    | --          | --                                 | --   | --                                                    | --           | GMP                | Additional analyses completed for investigation purposes                                                |
| <b>M-4</b>       |         |      |             |                                    |      |                                                       |              |                    |                                                                                                         |
| MWM4-05          | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| MWM4-06R         | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | No longer reliable for gauging purposes                                                                 |
| <b>M-5</b>       |         |      |             |                                    |      |                                                       |              |                    |                                                                                                         |
| MWM5-02          | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| MWM5-03          | A       | --   | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| <b>M-16</b>      |         |      |             |                                    |      |                                                       |              |                    |                                                                                                         |
| MWM16-02         | A       | A    | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| MWM16-30         | A       | A    | --          | --                                 | --   | --                                                    | --           | GMP                | Added in 2017 when original GMP well MWM16-21 was observed to have been paved over                      |
| MWM16-31         | A       | A    | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| MWM16-37         | A       | A    | --          | --                                 | --   | --                                                    | --           | GMP                | Added in 2016 when original GMP well MWM16-43 was observed to be damaged and could no longer be sampled |
| <b>M-31/M-32</b> |         |      |             |                                    |      |                                                       |              |                    |                                                                                                         |
| MWM31-02         | A       | A    | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |
| MWM32-01         | A       | A    | --          | --                                 | --   | --                                                    | --           | GMP                | --                                                                                                      |

**Table 1**  
**2022 Monitoring Well Gauging and Sampling List**  
**2022 Annual Groundwater Monitoring Report**  
**RACER Trust Pontiac North Campus**

| Well ID                                   | Gauging | VOCs                   | 1,4-dioxane | Inorganics/<br>Metals <sup>1</sup> | PCBs | Geochemical per<br>Montcalm Seep<br>IMWP <sup>2</sup> | Phenanthrene | Monitoring Program | Reason for Change                                        |
|-------------------------------------------|---------|------------------------|-------------|------------------------------------|------|-------------------------------------------------------|--------------|--------------------|----------------------------------------------------------|
| Montcalm Seep Monitoring                  |         |                        |             |                                    |      |                                                       |              |                    |                                                          |
| INJ-01-17                                 | A       | A                      | --          | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| INJ-02-18                                 | A       | A                      | --          | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| MW-03-17                                  | A       | A                      | --          | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| MW-04-17                                  | A       | A                      | --          | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| TW-MD-01                                  | A       | A                      | A           | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| TW-MD-02                                  | A       | A                      | --          | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| TW-MD-03                                  | A       | A                      | --          | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| TW-MD-04                                  | A       | A                      | --          | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| TW-MD-05                                  | A       | A                      | --          | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| TW-MD-06                                  | A       | A                      | --          | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| TW-MD-07                                  | A       | A                      | A           | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| MWW1-15                                   | A       | A                      | --          | A                                  | A    | A                                                     | --           | GMP/Seep           | --                                                       |
| Sump                                      | NA      | See Notes <sup>3</sup> |             |                                    |      |                                                       |              | Seep               | --                                                       |
| Stormwater Detention Facility (Duck Pond) |         |                        |             |                                    |      |                                                       |              |                    |                                                          |
| MWOS-04                                   | A       | --                     | C           | C                                  | C    | --                                                    | C            | GMP                | Additional analyses completed for investigation purposes |
| MWOS-05                                   | C       | --                     | C           | C                                  | C    | --                                                    | C            | Client Request     | Location added for investigation and gauging purposes    |
| MWOS-06                                   | A       | --                     | C           | C                                  | C    | --                                                    | C            | GMP                | Additional analyses completed for investigation purposes |
| MWOS-07                                   | C       | --                     | C           | C                                  | C    | --                                                    | C            | Client Request     | Location added for investigation and gauging purposes    |
| MWDP-1R                                   | C       | --                     | --          | --                                 | --   | --                                                    | --           | Client Request     | Location added for gauging purposes                      |
| MWDP-3R                                   | C       | --                     | --          | --                                 | --   | --                                                    | --           | Client Request     | Location added for gauging purposes                      |
| MWDP-05                                   | C       | --                     | --          | --                                 | --   | --                                                    | --           | Client Request     | Location added for gauging purposes                      |
| SWDF-1                                    | C       | --                     | C           | C                                  | C    | --                                                    | C            | Client Request     | Location added for investigation purposes                |

#### Abbreviations

A - Annual  
C - Client Request  
D - Dissolved  
GFL - Green for Life  
GMP - Groundwater Monitoring Program  
IMWP - Interim Measure Work Plan  
Mn - Manganese  
NA - Not Applicable  
Pb - Lead  
PCBs - Polychlorinated biphenyls  
Sb - Antimony  
T - Total  
V - Vanadium  
VOCs - Volatile organic compounds

#### Notes

1. Inorganics/Metals sampling includes antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc unless otherwise noted.
2. Geochemical sampling per the Montcalm Seep IMWP includes: calcium, iron, magnesium, alkalinity, hardness, dissolved and suspended solids.
3. Sump analysis includes VOC's, SVOC's, organochlorine pesticides, PCB's, asbestos, pH, alkalinity, total coliform, BOD, COD, total suspended solids, chloride, chlorine, fluoride, hardness, ammonia, oil & grease n-Hexane, total Kjeldahl nitrogen, nitrate, nitrite, total nitrogen, ortho phosphate, total phosphorus, conductivity, sulfate, sulfide, chromium VI, metals, total cyanide, sulfite, amenable cyanide, total dissolved solids, dissolved metals, and TOC

Table 2  
Groundwater Elevation Summary, September 2022  
2022 Annual Groundwater Monitoring Report  
RACER Trust Pontiac North Campus

| Well ID                | Well Elevation <sup>1</sup> | Depth to Water (ft) | Depth to LNAPL (ft) | Total Depth (ft) | Groundwater Elevation (AMSL) | LNAPL Thickness (ft) | Equivalent Groundwater Elevation <sup>2</sup> |
|------------------------|-----------------------------|---------------------|---------------------|------------------|------------------------------|----------------------|-----------------------------------------------|
| <b>OFFSITE</b>         |                             |                     |                     |                  |                              |                      |                                               |
| MWOS-01                | 943.79                      | 7.56                | --                  | 12.96            | 936.23                       | --                   | --                                            |
| MWOS-02                | 943.46                      | 7.23                | --                  | 15.92            | 936.23                       | --                   | --                                            |
| MWOS-03                | 944.35                      | 7.78                | --                  | 18.72            | 936.57                       | --                   | --                                            |
| MWOS-04                | 942.52                      | 4.20                | --                  | 12.85            | 938.32                       | --                   | --                                            |
| MWOS-06                | 944.01                      | 3.86                | --                  | 12.92            | 940.15                       | --                   | --                                            |
| <b>FIERO</b>           |                             |                     |                     |                  |                              |                      |                                               |
| <b>F-7</b>             |                             |                     |                     |                  |                              |                      |                                               |
| MWF7-02                | 970.58                      | 21.65               | --                  | 22.85            | 948.93                       | --                   | --                                            |
| <b>F-8</b>             |                             |                     |                     |                  |                              |                      |                                               |
| MWF8-01                | 972.94                      | 18.28               | --                  | 27.20            | 954.66                       | --                   | --                                            |
| <b>F-12</b>            |                             |                     |                     |                  |                              |                      |                                               |
| MWF12-01R              | 967.99                      | 20.51               | --                  | 22.75            | 947.48                       | --                   | --                                            |
| MWF12-02R              | 961.91                      | 12.72               | --                  | 22.50            | 949.19                       | --                   | --                                            |
| <b>F-16</b>            |                             |                     |                     |                  |                              |                      |                                               |
| MWF16-10               | 973.57                      | Well Destroyed      | NM                  | NM               | --                           | --                   | --                                            |
| MWF16-11               | 973.36                      | Well Destroyed      | NM                  | NM               | --                           | --                   | --                                            |
| MWF16-05               | 973.68                      | Inaccessible        | NM                  | NM               | --                           | --                   | --                                            |
| MWF16-06               | 973.77                      | 14.26               | --                  | 28.19            | 959.51                       | --                   | --                                            |
| MWF16-16               | 973.22                      | 22.48               | --                  | 31.26            | 950.74                       | --                   | --                                            |
| MWF16-23               | 973.39                      | 23.89               | --                  | 30.46            | 949.50                       | --                   | --                                            |
| MWF16-25               | 975.24                      | 25.93               | --                  | 37.18            | 949.31                       | --                   | --                                            |
| MW-02-17               | 972.52                      | 25.92               | --                  | 29.53            | 946.60                       | --                   | --                                            |
| MW-05-18               | 975.21                      | 27.21               | --                  | 33.49            | 948.00                       | --                   | --                                            |
| <b>Offsite</b>         |                             |                     |                     |                  |                              |                      |                                               |
| MW-08-21               | 975.50                      | 26.72               | --                  | 30.25            | 948.78                       | --                   | --                                            |
| MWOS-08                | 975.09                      | 25.93               | --                  | 28.80            | 949.16                       | --                   | --                                            |
| MWOS-09R               | 976.42                      | 27.20               | --                  | 32.20            | 949.22                       | --                   | --                                            |
| <b>DEMOLITION AREA</b> |                             |                     |                     |                  |                              |                      |                                               |
| <b>W-1</b>             |                             |                     |                     |                  |                              |                      |                                               |
| MWW01-SEN03            | 981.67                      | 37.76               | --                  | 48.07            | 943.91                       | --                   | --                                            |
| MWW01-SEN04            | 971.12                      | 29.18               | --                  | 37.88            | 941.94                       | --                   | --                                            |
| MWW1-04                | 947.49                      | 7.68                | --                  | 16.35            | 939.81                       | --                   | --                                            |
| MWW1-06                | 943.63                      | 6.16                | --                  | 14.35            | 937.47                       | --                   | --                                            |
| MW-40-99               | 952.32                      | 10.68               | --                  | 18.27            | 941.64                       | --                   | --                                            |
| MW-01-17               | 949.40                      | 7.87                | --                  | 10.74            | 941.53                       | --                   | --                                            |
| TW-01-01               | 972.95                      | 27.70               | 26.10               | 30.02            | 945.25                       | 1.60                 | 946.66                                        |
| TW-01-02               | 973.38                      | 20.95               | 20.75               | 21.50            | 952.43                       | 0.20                 | 952.61                                        |
| TW-01-03               | 969.06                      | 15.55               | --                  | 23.09            | 953.51                       | --                   | --                                            |
| MW-43-14R              | 969.90                      | 27.35               | --                  | 33.54            | 942.55                       | --                   | --                                            |
| <b>W-5</b>             |                             |                     |                     |                  |                              |                      |                                               |
| MWW5-01R               | 971.10                      | 17.55               | --                  | 24.53            | 953.55                       | --                   | --                                            |
| <b>W-8</b>             |                             |                     |                     |                  |                              |                      |                                               |
| TW-03-01               | 970.48                      | 19.40               | --                  | 20.20            | 951.08                       | --                   | --                                            |
| MWW8-36                | 968.62                      | 16.46               | 16.45               | --               | 952.16                       | 0.01                 | 952.17                                        |
| MWW8-65                | 969.62                      | --*                 | 27.79               | 34.65            | --                           | 6.86                 | --                                            |
| RWW8-129               | 966.71                      | 16.73               | 15.71               | --               | 949.98                       | 1.02                 | 950.88                                        |
| RWW8-133               | 966.34                      | 16.86               | 15.36               | 32.96            | 949.48                       | 1.50                 | 950.80                                        |
| TW-11-01               | 969.28                      | 9.54                | 6.84                | --               | 959.74                       | 2.70                 | 962.12                                        |
| TW-11-02               | 970.38                      | Inaccessible        | NM                  | NM               | --                           | --                   | --                                            |
| TW-09-01               | 970.01                      | 16.74               | 16.64               | --               | 953.27                       | 0.1                  | 953.36                                        |
| TW-10-01               | 971.91                      | 20.37               | --                  | 32.81            | 951.54                       | --                   | --                                            |
| TW-10-02               | 971.83                      | 16.83               | --                  | 35.26            | 955.00                       | --                   | --                                            |
| TWW8-01                | 969.37                      | 26.80               | 23.85               | --               | 942.57                       | 2.95                 | 945.17                                        |
| <b>W-10</b>            |                             |                     |                     |                  |                              |                      |                                               |
| MWW10-03               | 958.20                      | 8.56                | --                  | 12.01            | 949.64                       | --                   | --                                            |
| MWW10-SEN01            | 967.31                      | 18.58               | --                  | 22.50            | 948.73                       | --                   | --                                            |
| MWW10-SEN02            | 967.68                      | 25.73               | --                  | 28.36            | 941.95                       | --                   | --                                            |
| SB-25-14               | 966.21                      | 16.36               | 16.34               | 20.31            | 949.85                       | 0.02                 | 949.86                                        |
| RW-08-14               | NS                          | 19.50               | 10.51               | --               | NA                           | 8.99                 | NA                                            |

See Notes on last page.

**Table 2**  
**Groundwater Elevation Summary, September 2022**  
**2022 Annual Groundwater Monitoring Report**  
**RACER Trust Pontiac North Campus**

| Well ID                         | Well Elevation <sup>1</sup> | Depth to Water (ft) | Depth to LNAPL (ft) | Total Depth (ft) | Groundwater Elevation (AMSL) | LNAPL Thickness (ft) | Equivalent Groundwater Elevation <sup>2</sup> |
|---------------------------------|-----------------------------|---------------------|---------------------|------------------|------------------------------|----------------------|-----------------------------------------------|
| <b>MFD</b>                      |                             |                     |                     |                  |                              |                      |                                               |
| <b>M-2</b>                      |                             |                     |                     |                  |                              |                      |                                               |
| MWM2-22                         | 970.82                      | 17.76               | --                  | 24.36            | 953.06                       | --                   | --                                            |
| MWM2-28                         | 971.07                      | 17.68               | --                  | 25.82            | 953.39                       | --                   | --                                            |
| MWM2-37                         | 970.52                      | 47.62               | --                  | 67.02            | 922.90                       | --                   | --                                            |
| <b>M-4</b>                      |                             |                     |                     |                  |                              |                      |                                               |
| MWM4-05                         | 985.70                      | 8.88                | --                  | 23.02            | 976.82                       | --                   | --                                            |
| MWM4-06R                        | 984.85                      | 7.54                | --                  | 32.52            | 977.31                       | --                   | --                                            |
| <b>M-5</b>                      |                             |                     |                     |                  |                              |                      |                                               |
| MWM5-02                         | 977.07                      | 18.76               | --                  | 27.31            | 958.31                       | --                   | --                                            |
| MWM5-03                         | 978.78                      | 20.44               | --                  | 33.68            | 958.34                       | --                   | --                                            |
| <b>M-16</b>                     |                             |                     |                     |                  |                              |                      |                                               |
| MWM16-02                        | 979.83                      | 21.76               | --                  | 28.68            | 958.07                       | --                   | --                                            |
| MWM16-30                        | 985.37                      | 26.56               | --                  | 31.04            | 958.81                       | --                   | --                                            |
| MWM16-31                        | 981.08                      | 22.54               | --                  | 33.55            | 958.54                       | --                   | --                                            |
| MWM16-37                        | 980.37                      | 22.23               | --                  | 35.25            | 958.14                       | --                   | --                                            |
| <b>M-31/M-32</b>                |                             |                     |                     |                  |                              |                      |                                               |
| MWM31-02                        | 983.64                      | 26.12               | --                  | 38.10            | 957.52                       | --                   | --                                            |
| MWM32-01                        | 983.64                      | 26.25               | --                  | 35.05            | 957.39                       | --                   | --                                            |
| <b>Montcalm</b>                 |                             |                     |                     |                  |                              |                      |                                               |
| INJ-01-17                       | 965.12                      | 11.38               | --                  | 33.72            | 953.74                       | --                   | --                                            |
| INJ-02-18                       | 966.27                      | 13.15               | --                  | 38.83            | 953.12                       | --                   | --                                            |
| MW-03-17                        | 964.77                      | 10.96               | --                  | 21.77            | 953.81                       | --                   | --                                            |
| MW-04-17                        | 965.18                      | 11.47               | --                  | 24.86            | 953.71                       | --                   | --                                            |
| TW-MD-01                        | 946.20                      | 5.12                | --                  | 10.30            | 941.08                       | --                   | --                                            |
| TW-MD-02                        | 945.98                      | 6.23                | --                  | 12.42            | 939.75                       | --                   | --                                            |
| TW-MD-03                        | 946.60                      | 5.31                | --                  | 11.89            | 941.29                       | --                   | --                                            |
| TW-MD-04                        | 946.98                      | 6.05                | --                  | 13.59            | 940.93                       | --                   | --                                            |
| TW-MD-05                        | 946.71                      | 5.65                | --                  | 14.31            | 941.06                       | --                   | --                                            |
| TW-MD-06                        | 947.08                      | 6.08                | --                  | 16.84            | 941.00                       | --                   | --                                            |
| TW-MD-07                        | 947.08                      | 5.80                | --                  | 14.78            | 941.28                       | --                   | --                                            |
| MWW1-15                         | 951.37                      | 9.68                | --                  | 18.38            | 941.69                       | --                   | --                                            |
| <b>Former Fiero Parking Lot</b> |                             |                     |                     |                  |                              |                      |                                               |
| PZF17-01                        | 963.37                      | 11.10               | --                  | 15.57            | 952.27                       | --                   | --                                            |
| PZF17-02                        | 977.43                      | 23.65               | --                  | 31.50            | 953.78                       | --                   | --                                            |
| PZF17-03                        | 967.04                      | 15.80               | --                  | 20.20            | 951.24                       | --                   | --                                            |
| PZF17-04                        | 972.47                      | 19.76               | --                  | 28.87            | 952.71                       | --                   | --                                            |
| PZF17-05                        | 975.97                      | 25.92               | --                  | 34.00            | 950.05                       | --                   | --                                            |
| <b>Duck Pond</b>                |                             |                     |                     |                  |                              |                      |                                               |
| MWOS-05                         | 944.26                      | 4.52                | --                  | 11.48            | 939.74                       | --                   | --                                            |
| MWDP-1R                         | 947.41                      | 5.40                | --                  | 14.18            | 942.01                       | --                   | --                                            |
| MWDP-3R                         | 948.13                      | 6.17                | --                  | 15.05            | 941.96                       | --                   | --                                            |
| MWDP-05                         | 944.35                      | 5.70                | --                  | 9.84             | 938.65                       | --                   | --                                            |
| Sump                            | NA                          | 0.80                | --                  | --               | --                           | --                   | --                                            |
| MWOS-07                         | 947.53                      | 5.69                | --                  | 14.95            | 941.84                       | --                   | --                                            |

**Notes:**

1. All depth to waters measured from Top of Casing.
2. Water levels collected on September 19, 2022 unless otherwise listed below.
3. MWF16-10 and MWF-16-11 were confirmed destroyed due to GFL construction activities.
4. TW-11-02 was inaccessible due to a vehicle covering location during gauging event.
5. MWF16-05 was underneath surface water during the gauging event and therefore not gauged.

**Abbreviations:**

|       |                                |
|-------|--------------------------------|
| --    | Not available                  |
| ft    | Feet                           |
| LNAPL | Light non-aqueous phase liquid |
| NA    | Not applicable                 |
| NM    | Not measured                   |
| NS    | Well has not been surveyed     |
| AMSL  | Above mean sea level           |

**Footnotes:**

<sup>1</sup> Top of Casing Elevation is in feet National Vertical Geodetic Datum (1988)

<sup>2</sup> The equivalent groundwater (GW) elevation is calculated where LNAPL is present using the LNAPL surface elevation, the thickness of LNAPL and the approximate specific density of the LNAPL (0.88). This specific density is most representative of LNAPL samples collected at the Site. The calculation is as follows:

$$\text{Equivalent GW elevation} = \text{LNAPL surface elevation} - ((1 - \text{specific density of the LNAPL}) \times \text{LNAPL thickness})$$

\* No ground water measured in well. The entire column consisted of LNAPL.

Table 3  
Summary of Groundwater Analytical Results - Non-Fiero  
2022 Annual Groundwater Monitoring Report  
RACER Trust Pontiac North Campus

| Location ID:<br>Date Collected:<br>Sample Name:      | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVIIc | Nonresidential<br>GVIIc | Residential VIAP | Nonresidential<br>VIAP | Units | INJ-01-17<br>09/26/22<br>INJ-01-17_GW-092622 | INJ-02-18<br>09/26/22<br>INJ-02-18_GW-092622 | MW-01-17<br>09/26/22<br>MW-01-17_GW-092622 | MW-03-17<br>09/26/22<br>MW-03-17_GW-092622 | MW-04-17<br>09/26/22<br>MW-04-17_GW-092622 | MW-40-99<br>09/27/22<br>MW-40-99_GW-092722 |
|------------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|----------------------------------------------|----------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
| Field Parameters                                     |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                              |                                              |                                            |                                            |                                            |                                            |
| pH*                                                  | 6.5-8.5                       | 6.5-8.5                          | 6.5-9.0                                   | --                                                     | --                | --                      | --               | --                     | SU    | 7.13                                         | 7.14                                         | 7.84                                       | 7.02                                       | 7.03                                       | 7.01                                       |
| Turbidity                                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | NTU   | 50.30                                        | 0.02                                         | 0.45                                       | 0.67                                       | 2.81                                       | 2.40                                       |
| PCBs                                                 |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                              |                                              |                                            |                                            |                                            |                                            |
| Aroclor-1016 (PCB-1016)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                      | < 0.1 U                                      | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U [< 0.1 U]                          |
| Aroclor-1221 (PCB-1221)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                      | < 0.1 U                                      | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U [< 0.1 U]                          |
| Aroclor-1232 (PCB-1232)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                      | < 0.1 U                                      | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U [< 0.1 U]                          |
| Aroclor-1242 (PCB-1242)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                      | < 0.1 U                                      | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U [< 0.1 U]                          |
| Aroclor-1248 (PCB-1248)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                      | < 0.1 U                                      | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U [< 0.1 U]                          |
| Aroclor-1254 (PCB-1254)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                      | < 0.1 U                                      | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U [< 0.1 U]                          |
| Aroclor-1260 (PCB-1260)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                      | < 0.1 U                                      | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U [< 0.1 U]                          |
| Total PCBs                                           | 0.5                           | 0.5                              | 0.2                                       | --                                                     | 45                | 45                      | 0.031            | 0.97                   | ug/L  | < 0.1 U                                      | < 0.1 U                                      | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U [< 0.1 U]                          |
| Volatile Organics                                    |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                              |                                              |                                            |                                            |                                            |                                            |
| Acetone                                              | 730                           | 2,100                            | 1,700                                     | --                                                     | 1,000,000.000     | 1,000,000.000           | 40,000,000       | 40,000,000             | ug/L  | < 50 U                                       | < 50 U                                       | < 50 U                                     | < 50 U                                     | < 50 U                                     | < 50 U [< 50 U]                            |
| Benzene                                              | 5                             | 5                                | 200                                       | --                                                     | 5,600             | 35,000                  | 28               | 66                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Bromodichloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 4,800             | 37,000                  | 34               | 73                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Bromoform                                            | 80                            | 80                               | --                                        | --                                                     | 470,000           | 3,100,000               | 2,700            | 6,200                  | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Bromomethane (Methyl bromide)                        | 10                            | 29                               | 5                                         | --                                                     | 4,000             | 9,000                   | 55               | 80                     | ug/L  | < 5 U                                        | < 5 U                                        | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U [< 5 U]                              |
| 2-Butanone (Methyl ethyl ketone) (MEK)               | 13,000                        | 38,000                           | 2,200                                     | --                                                     | 240,000.000       | 240,000.000             | 4,300,000        | 4,300,000              | ug/L  | < 25 U                                       | < 25 U                                       | < 25 U                                     | < 25 U                                     | < 25 U                                     | < 25 U [< 25 U]                            |
| Carbon disulfide                                     | 800                           | 2,300                            | --                                        | --                                                     | 250,000           | 550,000                 | 2,100            | 3,100                  | ug/L  | < 5 U                                        | < 5 U                                        | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U [< 5 U]                              |
| Carbon tetrachloride                                 | 5                             | 5                                | 38                                        | --                                                     | 370               | 2,400                   | 7.7              | 18                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Trichlorofluoromethane (CFC-11)                      | 2,600                         | 7,300                            | --                                        | --                                                     | 1,100,000         | 1,100,000               | 190              | 560                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Dichlorodifluoromethane (CFC-12)                     | 1,700                         | 4,800                            | --                                        | --                                                     | 220,000           | 300,000                 | 49               | 410                    | ug/L  | < 5 U                                        | < 5 U                                        | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U [< 5 U]                              |
| Chlorobenzene                                        | 100                           | 100                              | 25                                        | --                                                     | 210,000           | 470,000                 | 940              | 1,400                  | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Dibromochloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 14,000            | 110,000                 | 23               | 130                    | ug/L  | < 5 U                                        | < 5 U                                        | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U [< 5 U]                              |
| Chloroethane                                         | 430                           | 1,700                            | 1,100                                     | --                                                     | 5,700,000         | 5,700,000               | 15,000           | 22,000                 | ug/L  | < 5 U                                        | < 5 U                                        | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U [< 5 U]                              |
| Chloroform (Trichloromethane)                        | 80                            | 80                               | 350                                       | --                                                     | 28,000            | 180,000                 | 14               | 32                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Chloromethane (Methyl chloride)                      | 260                           | 1,100                            | --                                        | --                                                     | 8,600             | 45,000                  | 380              | 560                    | ug/L  | < 5 U                                        | < 5 U                                        | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U [< 5 U]                              |
| Cyclohexane                                          | --                            | --                               | --                                        | --                                                     | --                | --                      | 2,000            | 8,100                  | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| 1,2-Dibromo-3-chloropropane (DBCP)                   | 0.2                           | 0.2                              | --                                        | --                                                     | 220               | 1,200                   | 0.00045          | 0.021                  | ug/L  | < 5 U                                        | < 5 U                                        | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U [< 5 U]                              |
| 1,2-Dibromoethane (Ethylene dibromide)               | 0.05                          | 0.05                             | 5.7                                       | --                                                     | 2,400             | 15,000                  | 3.8              | 8.9                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| 1,2-Dichlorobenzene                                  | 600                           | 600                              | 13                                        | --                                                     | 160,000           | 160,000                 | 11,000           | 16,000                 | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| 1,3-Dichlorobenzene                                  | 6.6                           | 19                               | 28                                        | --                                                     | 18,000            | 41,000                  | 75               | 110                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| 1,4-Dichlorobenzene                                  | 75                            | 75                               | 17                                        | --                                                     | 16,000            | 74,000                  | 170              | 400                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| 1,1-Dichloroethane                                   | 880                           | 2,500                            | 740                                       | --                                                     | 1,000,000         | 2,300,000               | 130              | 300                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| 1,2-Dichloroethane                                   | 5                             | 5                                | 360                                       | --                                                     | 9,600             | 59,000                  | 41               | 97                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| 1,1-Dichloroethene                                   | 7                             | 7                                | 130                                       | --                                                     | 200               | 1,300                   | 330              | 480                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| cis-1,2-Dichloroethene                               | 70                            | 70                               | 620                                       | --                                                     | 93,000            | 210,000                 | 95               | 140                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| trans-1,2-Dichloroethene                             | 100                           | 100                              | 1,500                                     | --                                                     | 85,000            | 200,000                 | 390              | 580                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Methylene chloride                                   | 5                             | 5                                | 1,500                                     | --                                                     | 220,000           | 1,400,000               | 8,400            | 12,000                 | ug/L  | < 5 U                                        | < 5 U                                        | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U [< 5 U]                              |
| 1,2-Dichloropropane                                  | 5                             | 5                                | 230                                       | --                                                     | 16,000            | 36,000                  | 74               | 110                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| cis-1,3-Dichloropropene                              | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| trans-1,3-Dichloropropene                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Ethylbenzene*                                        | 74                            | 74                               | 18                                        | 700                                                    | 110,000           | 170,000                 | 74               | 170                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Isopropyl benzene                                    | 800                           | 2,300                            | 28                                        | --                                                     | 56,000            | 56,000                  | 15               | 36                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Methyl acetate                                       | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 10 U                                       | < 10 U                                       | < 10 U                                     | < 10 U                                     | < 10 U                                     | < 10 U [< 10 U]                            |
| 2-Hexanone                                           | 1,000                         | 2,900                            | --                                        | --                                                     | 4,200,000         | 8,700,000               | 20,000           | 29,000                 | ug/L  | < 50 U                                       | < 50 U                                       | < 50 U                                     | < 50 U                                     | < 50 U                                     | < 50 U [< 50 U]                            |
| Methyl cyclohexane                                   | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) | 1,800                         | 5,200                            | --                                        | --                                                     | 20,000.000        | 20,000.000              | 330,000          | 330,000                | ug/L  | < 50 U                                       | < 50 U                                       | < 50 U                                     | < 50 U                                     | < 50 U                                     | < 50 U [< 50 U]                            |
| Methyl tert butyl ether (MTBE)*                      | 40                            | 40                               | 7,100                                     | 690                                                    | 47,000.000        | 47,000.000              | 7,400            | 17,000                 | ug/L  | < 5 U                                        | < 5 U                                        | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U [< 5 U]                              |
| Styrene                                              | 100                           | 100                              | 80                                        | --                                                     | 170,000           | 310,000                 | 960              | 2,300                  | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| 1,1,2,2-Tetrachloroethane                            | 8.5                           | 35                               | 78                                        | --                                                     | 12,000            | 77,000                  | 71               | 170                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Tetrachloroethene                                    | 5                             | 5                                | 60                                        | --                                                     | 25,000            | 170,000                 | 130              | 130                    | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Toluene*                                             | 790                           | 790                              | 270                                       | 1,000                                                  | 530,000           | 530,000                 | 41,000           | 59,000                 | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| 1,2,4-Trichlorobenzene                               | 70                            | 70                               | 99                                        | --                                                     | 300,000           | 300,000                 | 110              | 160                    | ug/L  | < 5 U                                        | < 5 U                                        | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U [< 5 U]                              |
| 1,1,1-Trichloroethane                                | 200                           | 200                              | 89                                        | --                                                     | 660,000           | 1,300,000               | 14,000           | 19,000                 | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| 1,1,2-Trichloroethane                                | 5                             | 5                                | 330                                       | --                                                     | 17,000            | 110,000                 | 14               | 20                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Trichloroethene                                      | 5                             | 5                                | 200                                       | --                                                     | 2,200             | 4,900                   | 10               | 10                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Trifluorotrichloroethane (Freon 113)                 | 170,000                       | 170,000                          | 32                                        | --                                                     | 170,000           | 170,000                 | 2,700            | 26,000                 | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Vinyl chloride                                       | 2                             | 2                                | 13                                        | --                                                     | 1,100             | 13,000                  | 2.1              | 18                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| m&p-Xylene                                           | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 2 U                                        | < 2 U                                        | < 2 U                                      | < 2 U                                      | < 2 U                                      | < 2 U [< 2 U]                              |
| o-Xylene                                             | NA                            | NA                               | NA                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                        | < 1 U                                        | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U [< 1 U]                              |
| Total Xylenes*                                       | 280                           | 280                              | 49                                        | 10,000                                                 | 190,000           | 190,000                 | 2,000            | 3,000                  | ug/L  | < 2 U                                        | < 2 U                                        | < 2 U                                      | < 2 U                                      | < 2 U                                      | < 2 U [< 2 U]                              |

See Notes on last page.

Table 3  
Summary of Groundwater Analytical Results - Non-Fiero  
2022 Annual Groundwater Monitoring Report  
RACER Trust Pontiac North Campus

| Location ID:<br>Date Collected:<br>Sample Name: | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVIIc | Nonresidential<br>GVIIc | Residential VIAP | Nonresidential<br>VIAP | Units | INJ-01-17<br>09/26/22<br>INJ-01-17_GW-092622 | INJ-02-18<br>09/26/22<br>INJ-02-18_GW-092622 | MW-01-17<br>09/26/22<br>MW-01-17_GW-092622 | MW-03-17<br>09/26/22<br>MW-03-17_GW-092622 | MW-04-17<br>09/26/22<br>MW-04-17_GW-092622 | MW-40-99<br>09/27/22<br>MW-40-99_GW-092722 |
|-------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|----------------------------------------------|----------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
| Volatile Organics-SIM                           |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                              |                                              |                                            |                                            |                                            |                                            |
| 1,4-Dioxane                                     | 7.2                           | 350                              | 280                                       | --                                                     | --                | --                      | 56,000           | 130,000                | ug/L  | NA                                           | NA                                           | 4                                          | NA                                         | NA                                         | 6 [6 ]                                     |
| Inorganics                                      |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                              |                                              |                                            |                                            |                                            |                                            |
| Antimony                                        | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                        | < 5 U                                        | NA                                         | < 5 U                                      | < 5 U                                      | NA                                         |
| Arsenic                                         | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 5                                            | 7                                            | NA                                         | 22                                         | 13                                         | NA                                         |
| Barium                                          | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | 281                                          | 259                                          | NA                                         | 283                                        | 245                                        | NA                                         |
| Beryllium                                       | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                        | < 1 U                                        | NA                                         | < 1 U                                      | < 1 U                                      | NA                                         |
| Cadmium                                         | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.5 U                                      | < 0.5 U                                      | NA                                         | < 0.5 U                                    | < 0.5 U                                    | NA                                         |
| Calcium                                         | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 126,000                                      | 125,000                                      | NA                                         | 122,000                                    | 118,000                                    | NA                                         |
| Chromium                                        | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                        | < 5 U                                        | NA                                         | < 5 U                                      | < 5 U                                      | NA                                         |
| Cobalt                                          | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                        | < 5 U                                        | NA                                         | < 5 U                                      | < 5 U                                      | NA                                         |
| Copper*                                         | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | < 5 U                                        | 13                                           | NA                                         | < 5 U                                      | < 5 U                                      | NA                                         |
| Iron*                                           | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | 21,600                                       | 19,600                                       | NA                                         | 12,300                                     | 12,500                                     | NA                                         |
| Lead                                            | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 3 U                                        | < 3 U                                        | NA                                         | < 3 U                                      | < 3 U                                      | NA                                         |
| Magnesium                                       | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 33,100                                       | 31,300                                       | NA                                         | 30,700                                     | 30,000                                     | NA                                         |
| Manganese*                                      | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | 576                                          | 540                                          | NA                                         | 707                                        | 564                                        | NA                                         |
| Mercury                                         | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | < 0.2 U                                      | < 0.2 U                                      | NA                                         | < 0.2 U                                    | < 0.2 U                                    | NA                                         |
| Nickel                                          | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                        | < 5 U                                        | NA                                         | < 5 U                                      | < 5 U                                      | NA                                         |
| Selenium                                        | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                        | < 5 U                                        | NA                                         | < 5 U                                      | < 5 U                                      | NA                                         |
| Silver                                          | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.5 U                                      | < 0.5 U                                      | NA                                         | < 0.5 U                                    | < 0.5 U                                    | NA                                         |
| Thallium                                        | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 2 U                                        | < 2 U                                        | NA                                         | < 2 U                                      | < 2 U                                      | NA                                         |
| Vanadium                                        | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                        | < 5 U                                        | NA                                         | < 5 U                                      | < 5 U                                      | NA                                         |
| Zinc*                                           | 2,400                         | 5,000                            | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | 5                                            | 5                                            | NA                                         | < 5 U                                      | 5                                          | NA                                         |
| Inorganics-Filtered                             |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                              |                                              |                                            |                                            |                                            |                                            |
| Antimony (dissolved)                            | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Arsenic (dissolved)                             | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Barium (dissolved)                              | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Beryllium (dissolved)                           | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Cadmium (dissolved)                             | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Calcium (dissolved)                             | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Chromium Total (dissolved)                      | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Cobalt (dissolved)                              | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Copper (dissolved)*                             | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Iron (dissolved)                                | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Lead (dissolved)                                | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Magnesium (dissolved)                           | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Manganese (dissolved)*                          | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Mercury (dissolved)                             | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Nickel (dissolved)                              | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Selenium (dissolved)                            | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Silver (dissolved)                              | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Thallium (dissolved)                            | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Vanadium (dissolved)                            | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Zinc (dissolved)*                               | 2,400                         | 5000                             | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                           | NA                                           | NA                                         | NA                                         | NA                                         | NA                                         |
| Miscellaneous                                   |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                              |                                              |                                            |                                            |                                            |                                            |
| Alkalinity, total (as CaCO3)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 350,000                                      | 350,000                                      | NA                                         | 346,000                                    | 346,000                                    | NA                                         |
| Hardness                                        | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 309,000                                      | 308,000                                      | NA                                         | 298,000                                    | 295,000                                    | NA                                         |
| Total dissolved solids (TDS)                    | 500,000                       | 500,000                          | 500,000                                   | --                                                     | --                | --                      | --               | --                     | ug/L  | 1,610,000                                    | 1,730,000                                    | NA                                         | 1,630,000                                  | 1,560,000                                  | NA                                         |
| Total suspended solids (TSS)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 43,000                                       | 38,000                                       | NA                                         | 18,000                                     | 28,000                                     | NA                                         |

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| Location ID:<br>Date Collected:<br>Sample Name:      | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVILC | Nonresidential<br>GVILC | Residential VIAP | Nonresidential<br>VIAP | Units | MWM16-02<br>09/28/22<br>MWM16-02_GW-092822 | MWM16-30<br>09/29/22<br>MWM16-30_GW-092922 | MWM16-31<br>09/28/22<br>MWM16-31_GW-092822 | MWM16-37<br>09/29/22<br>MWM16-37_GW-092922 | MWM2-22<br>09/28/22<br>MWM2-22_GW-092822 | MWM2-28<br>09/28/22<br>MWM2-28_GW-092822 |
|------------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|------------------------------------------|------------------------------------------|
| Field Parameters                                     |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                          |                                          |
| pH*                                                  | 6.5-8.5                       | 6.5-8.5                          | 6.5-9.0                                   | --                                                     | --                | --                      | --               | --                     | SU    | 7.04                                       | 6.83                                       | 7.10                                       | 7.15                                       | 6.84                                     | 7.23                                     |
| Turbidity                                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | NTU   | 0.02                                       | 0.02                                       | 0.70                                       | 0.95                                       | 0.49                                     | 0.02                                     |
| PCBs                                                 |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                          |                                          |
| Aroclor-1016 (PCB-1016)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Aroclor-1221 (PCB-1221)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Aroclor-1232 (PCB-1232)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Aroclor-1242 (PCB-1242)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Aroclor-1248 (PCB-1248)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Aroclor-1254 (PCB-1254)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Aroclor-1260 (PCB-1260)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Total PCBs                                           | 0.5                           | 0.5                              | 0.2                                       | --                                                     | 45                | 45                      | 0.031            | 0.97                   | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Volatile Organics                                    |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                          |                                          |
| Acetone                                              | 730                           | 2,100                            | 1,700                                     | --                                                     | 1,000,000.000     | 1,000,000.000           | 40,000,000       | 40,000,000             | ug/L  | < 50 U                                     | < 50 U [< 50 U]                            | < 50 U                                     | < 50 U [< 50 U]                            | < 50 U                                   | < 50 U                                   |
| Benzene                                              | 5                             | 5                                | 200                                       | --                                                     | 5,600             | 35,000                  | 28               | 66                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Bromodichloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 4,800             | 37,000                  | 34               | 73                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Bromoform                                            | 80                            | 80                               | --                                        | --                                                     | 470,000           | 3,100,000               | 2,700            | 6,200                  | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Bromomethane (Methyl bromide)                        | 10                            | 29                               | 5                                         | --                                                     | 4,000             | 9,000                   | 55               | 80                     | ug/L  | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                    |
| 2-Butanone (Methyl ethyl ketone) (MEK)               | 13,000                        | 38,000                           | 2,200                                     | --                                                     | 240,000.000       | 240,000.000             | 4,300,000        | 4,300,000              | ug/L  | < 25 U                                     | < 25 U [< 25 U]                            | < 25 U                                     | < 25 U [< 25 U]                            | < 25 U                                   | < 25 U                                   |
| Carbon disulfide                                     | 800                           | 2,300                            | --                                        | --                                                     | 250,000           | 550,000                 | 2,100            | 3,100                  | ug/L  | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                    |
| Carbon tetrachloride                                 | 5                             | 5                                | 38                                        | --                                                     | 370               | 2,400                   | 7.7              | 18                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Trichlorofluoromethane (CFC-11)                      | 2,600                         | 7,300                            | --                                        | --                                                     | 1,100,000         | 1,100,000               | 190              | 560                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Dichlorodifluoromethane (CFC-12)                     | 1,700                         | 4,800                            | --                                        | --                                                     | 220,000           | 300,000                 | 49               | 410                    | ug/L  | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                    |
| Chlorobenzene                                        | 100                           | 100                              | 25                                        | --                                                     | 210,000           | 470,000                 | 940              | 1,400                  | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Dibromochloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 14,000            | 110,000                 | 23               | 130                    | ug/L  | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                    |
| Chloroethane                                         | 430                           | 1,700                            | 1,100                                     | --                                                     | 5,700,000         | 5,700,000               | 15,000           | 22,000                 | ug/L  | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                    |
| Chloroform (Trichloromethane)                        | 80                            | 80                               | 350                                       | --                                                     | 28,000            | 180,000                 | 14               | 32                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Chloromethane (Methyl chloride)                      | 260                           | 1,100                            | --                                        | --                                                     | 8,600             | 45,000                  | 380              | 560                    | ug/L  | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                    |
| Cyclohexane                                          | --                            | --                               | --                                        | --                                                     | --                | --                      | 2,000            | 8,100                  | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| 1,2-Dibromo-3-chloropropane (DBCP)                   | 0.2                           | 0.2                              | --                                        | --                                                     | 220               | 1,200                   | 0.00045          | 0.021                  | ug/L  | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                    |
| 1,2-Dibromoethane (Ethylene dibromide)               | 0.05                          | 0.05                             | 5.7                                       | --                                                     | 2,400             | 15,000                  | 3.8              | 8.9                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| 1,2-Dichlorobenzene                                  | 600                           | 600                              | 13                                        | --                                                     | 160,000           | 160,000                 | 11,000           | 16,000                 | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| 1,3-Dichlorobenzene                                  | 6.6                           | 19                               | 28                                        | --                                                     | 18,000            | 41,000                  | 75               | 110                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| 1,4-Dichlorobenzene                                  | 75                            | 75                               | 17                                        | --                                                     | 16,000            | 74,000                  | 170              | 400                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| 1,1-Dichloroethane                                   | 880                           | 2,500                            | 740                                       | --                                                     | 1,000,000         | 2,300,000               | 130              | 300                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | 27                                       | < 1 U                                    |
| 1,2-Dichloroethane                                   | 5                             | 5                                | 360                                       | --                                                     | 9,600             | 59,000                  | 41               | 97                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| 1,1-Dichloroethene                                   | 7                             | 7                                | 130                                       | --                                                     | 200               | 1,300                   | 330              | 480                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| cis-1,2-Dichloroethene                               | 70                            | 70                               | 620                                       | --                                                     | 93,000            | 210,000                 | 95               | 140                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | 14                                       | < 1 U                                    |
| trans-1,2-Dichloroethene                             | 100                           | 100                              | 1,500                                     | --                                                     | 85,000            | 200,000                 | 390              | 580                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Methylene chloride                                   | 5                             | 5                                | 1,500                                     | --                                                     | 220,000           | 1,400,000               | 8,400            | 12,000                 | ug/L  | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                    |
| 1,2-Dichloropropane                                  | 5                             | 5                                | 230                                       | --                                                     | 16,000            | 36,000                  | 74               | 110                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| cis-1,3-Dichloropropene                              | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| trans-1,3-Dichloropropene                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Ethylbenzene*                                        | 74                            | 74                               | 18                                        | 700                                                    | 110,000           | 170,000                 | 74               | 170                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Isopropyl benzene                                    | 800                           | 2,300                            | 28                                        | --                                                     | 56,000            | 56,000                  | 15               | 36                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Methyl acetate                                       | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 10 U                                     | < 10 U [< 10 U]                            | < 10 U                                     | < 10 U [< 10 U]                            | < 10 U                                   | < 10 U                                   |
| 2-Hexanone                                           | 1,000                         | 2,900                            | --                                        | --                                                     | 4,200,000         | 8,700,000               | 20,000           | 29,000                 | ug/L  | < 50 U                                     | < 50 U [< 50 U]                            | < 50 U                                     | < 50 U [< 50 U]                            | < 50 U                                   | < 50 U                                   |
| Methyl cyclohexane                                   | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) | 1,800                         | 5,200                            | --                                        | --                                                     | 20,000.000        | 20,000.000              | 330,000          | 330,000                | ug/L  | < 50 U                                     | < 50 U [< 50 U]                            | < 50 U                                     | < 50 U [< 50 U]                            | < 50 U                                   | < 50 U                                   |
| Methyl tert butyl ether (MTBE)*                      | 40                            | 40                               | 7,100                                     | 690                                                    | 47,000.000        | 47,000.000              | 7,400            | 17,000                 | ug/L  | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                    |
| Styrene                                              | 100                           | 100                              | 80                                        | --                                                     | 170,000           | 310,000                 | 960              | 2,300                  | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| 1,1,2,2-Tetrachloroethane                            | 8.5                           | 35                               | 78                                        | --                                                     | 12,000            | 77,000                  | 71               | 170                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Tetrachloroethene                                    | 5                             | 5                                | 60                                        | --                                                     | 25,000            | 170,000                 | 130              | 130                    | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | 42                                       | < 1 U                                    |
| Toluene*                                             | 790                           | 790                              | 270                                       | 1,000                                                  | 530,000           | 530,000                 | 41,000           | 59,000                 | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| 1,2,4-Trichlorobenzene                               | 70                            | 70                               | 99                                        | --                                                     | 300,000           | 300,000                 | 110              | 160                    | ug/L  | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                      | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                    |
| 1,1,1-Trichloroethane                                | 200                           | 200                              | 89                                        | --                                                     | 660,000           | 1,300,000               | 14,000           | 19,000                 | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | 5                                        | < 1 U                                    |
| 1,1,2-Trichloroethane                                | 5                             | 5                                | 330                                       | --                                                     | 17,000            | 110,000                 | 14               | 20                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Trichloroethene                                      | 5                             | 5                                | 200                                       | --                                                     | 2,200             | 4,900                   | 10               | 10                     | ug/L  | < 1 U                                      | 11 [12]                                    | < 1 U                                      | < 1 U [< 1 U]                              | 15                                       | < 1 U                                    |
| Trifluorotrichloroethane (Freon 113)                 | 170,000                       | 170,000                          | 32                                        | --                                                     | 170,000           | 170,000                 | 2,700            | 26,000                 | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Vinyl chloride                                       | 2                             | 2                                | 13                                        | --                                                     | 1,100             | 13,000                  | 2.1              | 18                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | 2                                          | 2 [3]                                      | 18                                       | < 1 U                                    |
| m&p-Xylene                                           | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 2 U                                      | < 2 U [< 2 U]                              | < 2 U                                      | < 2 U [< 2 U]                              | < 2 U                                    | < 2 U                                    |
| o-Xylene                                             | NA                            | NA                               | NA                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                      | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                    |
| Total Xylenes*                                       | 280                           | 280                              | 49                                        | 10,000                                                 | 190,000           | 190,000                 | 2,000            | 3,000                  | ug/L  | < 2 U                                      | < 2 U [< 2 U]                              | < 2 U                                      | < 2 U [< 2 U]                              | < 2 U                                    | < 2 U                                    |

See Notes on last page.



Table 3  
Summary of Groundwater Analytical Results - Non-Fiero  
2022 Annual Groundwater Monitoring Report  
RACER Trust Pontiac North Campus

| Location ID:<br>Date Collected:<br>Sample Name: | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVIIc | Nonresidential<br>GVIIc | Residential VIAP | Nonresidential<br>VIAP | Units | MWM16-02<br>09/28/22<br>MWM16-02_GW-092822 | MWM16-30<br>09/29/22<br>MWM16-30_GW-092922 | MWM16-31<br>09/28/22<br>MWM16-31_GW-092822 | MWM16-37<br>09/29/22<br>MWM16-37_GW-092922 | MWM2-22<br>09/28/22<br>MWM2-22_GW-092822 | MWM2-28<br>09/28/22<br>MWM2-28_GW-092822 |
|-------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|------------------------------------------|------------------------------------------|
| Volatile Organics-SIM                           |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                          |                                          |
| 1,4-Dioxane                                     | 7.2                           | 350                              | 280                                       | --                                                     | --                | --                      | 56,000           | 130,000                | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Inorganics                                      |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                          |                                          |
| Antimony                                        | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Arsenic                                         | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Barium                                          | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Beryllium                                       | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Cadmium                                         | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Calcium                                         | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Chromium                                        | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Cobalt                                          | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Copper*                                         | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Iron*                                           | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Lead                                            | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Magnesium                                       | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Manganese*                                      | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Mercury                                         | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Nickel                                          | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Selenium                                        | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Silver                                          | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Thallium                                        | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Vanadium                                        | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Zinc*                                           | 2,400                         | 5,000                            | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Inorganics-Filtered                             |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                          |                                          |
| Antimony (dissolved)                            | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Arsenic (dissolved)                             | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Barium (dissolved)                              | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Beryllium (dissolved)                           | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Cadmium (dissolved)                             | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Calcium (dissolved)                             | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Chromium Total (dissolved)                      | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Cobalt (dissolved)                              | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Copper (dissolved)*                             | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Iron (dissolved)                                | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Lead (dissolved)                                | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Magnesium (dissolved)                           | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Manganese (dissolved)*                          | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Mercury (dissolved)                             | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Nickel (dissolved)                              | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Selenium (dissolved)                            | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Silver (dissolved)                              | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Thallium (dissolved)                            | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Vanadium (dissolved)                            | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Zinc (dissolved)*                               | 2,400                         | 5000                             | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Miscellaneous                                   |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                          |                                          |
| Alkalinity, total (as CaCO3)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Hardness                                        | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Total dissolved solids (TDS)                    | 500,000                       | 500,000                          | 500,000                                   | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |
| Total suspended solids (TSS)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                       | NA                                       |



Table 3  
Summary of Groundwater Analytical Results - Non-Fiero  
2022 Annual Groundwater Monitoring Report  
RACER Trust Pontiac North Campus

| Location ID:<br>Date Collected:<br>Sample Name:      | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVIIC | Nonresidential<br>GVIIC | Residential VIAP | Nonresidential<br>VIAP | Units | MWM31-02<br>09/29/22<br>MWM31-02_GW-092922 | MWM32-01<br>09/29/22<br>MWM32-01_GW-092922 | MWOS-01<br>10/03/22<br>MWOS-01_GW-100322 | MWOS-02<br>09/30/22<br>MWOS-02_GW-093022 | MWOS-03<br>10/03/22<br>MWOS-03_GW-100322 | MWW1-04<br>09/29/22<br>MWW1-04_GW-092922 |
|------------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|--------------------------------------------|--------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
| Field Parameters                                     |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                          |                                          |                                          |                                          |
| pH*                                                  | 6.5-8.5                       | 6.5-8.5                          | 6.5-9.0                                   | --                                                     | --                | --                      | --               | --                     | SU    | 7.18                                       | 6.78                                       | 6.98                                     | 7.01                                     | 6.45                                     | 10.84                                    |
| Turbidity                                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | NTU   | 0.02                                       | 0.98                                       | 3.75                                     | 1.46                                     | 1.67                                     | 1.53                                     |
| PCBs                                                 |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                          |                                          |                                          |                                          |
| Aroclor-1016 (PCB-1016)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | < 0.1 U                                  | < 0.1 U                                  |
| Aroclor-1221 (PCB-1221)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | < 0.1 U                                  | < 0.1 U                                  |
| Aroclor-1232 (PCB-1232)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | < 0.1 U                                  | < 0.1 U                                  |
| Aroclor-1242 (PCB-1242)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | < 0.1 U                                  | 0.2                                      |
| Aroclor-1248 (PCB-1248)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | < 0.1 U                                  | < 0.1 U                                  |
| Aroclor-1254 (PCB-1254)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | < 0.1 U                                  | < 0.1 U                                  |
| Aroclor-1260 (PCB-1260)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | < 0.1 U                                  | < 0.1 U                                  |
| Total PCBs                                           | 0.5                           | 0.5                              | 0.2                                       | --                                                     | 45                | 45                      | 0.031            | 0.97                   | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | < 0.1 U                                  | 0.2                                      |
| Volatile Organics                                    |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                          |                                          |                                          |                                          |
| Acetone                                              | 730                           | 2,100                            | 1,700                                     | --                                                     | 1,000,000.000     | 1,000,000.000           | 40,000,000       | 40,000,000             | ug/L  | < 50 U                                     | < 50 U                                     | < 50 U                                   | < 50 U                                   | < 50 U                                   | < 50 U                                   |
| Benzene                                              | 5                             | 5                                | 200                                       | --                                                     | 5,600             | 35,000                  | 28               | 66                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Bromodichloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 4,800             | 37,000                  | 34               | 73                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Bromoform                                            | 80                            | 80                               | --                                        | --                                                     | 470,000           | 3,100,000               | 2,700            | 6,200                  | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Bromomethane (Methyl bromide)                        | 10                            | 29                               | 5                                         | --                                                     | 4,000             | 9,000                   | 55               | 80                     | ug/L  | < 5 U                                      | < 5 U                                      | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    |
| 2-Butanone (Methyl ethyl ketone) (MEK)               | 13,000                        | 38,000                           | 2,200                                     | --                                                     | 240,000.000       | 240,000.000             | 4,300,000        | 4,300,000              | ug/L  | < 25 U                                     | < 25 U                                     | < 25 U                                   | < 25 U                                   | < 25 U                                   | < 25 U                                   |
| Carbon disulfide                                     | 800                           | 2,300                            | --                                        | --                                                     | 250,000           | 550,000                 | 2,100            | 3,100                  | ug/L  | < 5 U                                      | < 5 U                                      | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    |
| Carbon tetrachloride                                 | 5                             | 5                                | 38                                        | --                                                     | 370               | 2,400                   | 7.7              | 18                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Trichlorofluoromethane (CFC-11)                      | 2,600                         | 7,300                            | --                                        | --                                                     | 1,100,000         | 1,100,000               | 190              | 560                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Dichlorodifluoromethane (CFC-12)                     | 1,700                         | 4,800                            | --                                        | --                                                     | 220,000           | 300,000                 | 49               | 410                    | ug/L  | < 5 U                                      | < 5 U                                      | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    |
| Chlorobenzene                                        | 100                           | 100                              | 25                                        | --                                                     | 210,000           | 470,000                 | 940              | 1,400                  | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Dibromochloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 14,000            | 110,000                 | 23               | 130                    | ug/L  | < 5 U                                      | < 5 U                                      | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    |
| Chloroethane                                         | 430                           | 1,700                            | 1,100                                     | --                                                     | 5,700,000         | 5,700,000               | 15,000           | 22,000                 | ug/L  | < 5 U                                      | < 5 U                                      | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    |
| Chloroform (Trichloromethane)                        | 80                            | 80                               | 350                                       | --                                                     | 28,000            | 180,000                 | 14               | 32                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Chloromethane (Methyl chloride)                      | 260                           | 1,100                            | --                                        | --                                                     | 8,600             | 45,000                  | 380              | 560                    | ug/L  | < 5 U                                      | < 5 U                                      | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    |
| Cyclohexane                                          | --                            | --                               | --                                        | --                                                     | --                | --                      | 2,000            | 8,100                  | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| 1,2-Dibromo-3-chloropropane (DBCP)                   | 0.2                           | 0.2                              | --                                        | --                                                     | 220               | 1,200                   | 0.00045          | 0.021                  | ug/L  | < 5 U                                      | < 5 U                                      | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    |
| 1,2-Dibromoethane (Ethylene dibromide)               | 0.05                          | 0.05                             | 5.7                                       | --                                                     | 2,400             | 15,000                  | 3.8              | 8.9                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| 1,2-Dichlorobenzene                                  | 600                           | 600                              | 13                                        | --                                                     | 160,000           | 160,000                 | 11,000           | 16,000                 | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| 1,3-Dichlorobenzene                                  | 6.6                           | 19                               | 28                                        | --                                                     | 18,000            | 41,000                  | 75               | 110                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| 1,4-Dichlorobenzene                                  | 75                            | 75                               | 17                                        | --                                                     | 16,000            | 74,000                  | 170              | 400                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| 1,1-Dichloroethane                                   | 880                           | 2,500                            | 740                                       | --                                                     | 1,000,000         | 2,300,000               | 130              | 300                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| 1,2-Dichloroethane                                   | 5                             | 5                                | 360                                       | --                                                     | 9,600             | 59,000                  | 41               | 97                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| 1,1-Dichloroethene                                   | 7                             | 7                                | 130                                       | --                                                     | 200               | 1,300                   | 330              | 480                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| cis-1,2-Dichloroethene                               | 70                            | 70                               | 620                                       | --                                                     | 93,000            | 210,000                 | 95               | 140                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| trans-1,2-Dichloroethene                             | 100                           | 100                              | 1,500                                     | --                                                     | 85,000            | 200,000                 | 390              | 580                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Methylene chloride                                   | 5                             | 5                                | 1,500                                     | --                                                     | 220,000           | 1,400,000               | 8,400            | 12,000                 | ug/L  | < 5 U                                      | < 5 U                                      | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    |
| 1,2-Dichloropropane                                  | 5                             | 5                                | 230                                       | --                                                     | 16,000            | 36,000                  | 74               | 110                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| cis-1,3-Dichloropropene                              | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| trans-1,3-Dichloropropene                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Ethylbenzene*                                        | 74                            | 74                               | 18                                        | 700                                                    | 110,000           | 170,000                 | 74               | 170                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Isopropyl benzene                                    | 800                           | 2,300                            | 28                                        | --                                                     | 56,000            | 56,000                  | 15               | 36                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Methyl acetate                                       | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 10 U                                     | < 10 U                                     | < 10 U                                   | < 10 U                                   | < 10 U                                   | < 10 U                                   |
| 2-Hexanone                                           | 1,000                         | 2,900                            | --                                        | --                                                     | 4,200,000         | 8,700,000               | 20,000           | 29,000                 | ug/L  | < 50 U                                     | < 50 U                                     | < 50 U                                   | < 50 U                                   | < 50 U                                   | < 50 U                                   |
| Methyl cyclohexane                                   | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) | 1,800                         | 5,200                            | --                                        | --                                                     | 20,000.000        | 20,000.000              | 330,000          | 330,000                | ug/L  | < 50 U                                     | < 50 U                                     | < 50 U                                   | < 50 U                                   | < 50 U                                   | < 50 U                                   |
| Methyl tert butyl ether (MTBE)*                      | 40                            | 40                               | 7,100                                     | 690                                                    | 47,000.000        | 47,000.000              | 7,400            | 17,000                 | ug/L  | < 5 U                                      | < 5 U                                      | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    |
| Styrene                                              | 100                           | 100                              | 80                                        | --                                                     | 170,000           | 310,000                 | 960              | 2,300                  | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| 1,1,2,2-Tetrachloroethane                            | 8.5                           | 35                               | 78                                        | --                                                     | 12,000            | 77,000                  | 71               | 170                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Tetrachloroethene                                    | 5                             | 5                                | 60                                        | --                                                     | 25,000            | 170,000                 | 130              | 130                    | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Toluene*                                             | 790                           | 790                              | 270                                       | 1,000                                                  | 530,000           | 530,000                 | 41,000           | 59,000                 | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| 1,2,4-Trichlorobenzene                               | 70                            | 70                               | 99                                        | --                                                     | 300,000           | 300,000                 | 110              | 160                    | ug/L  | < 5 U                                      | < 5 U                                      | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    |
| 1,1,1-Trichloroethane                                | 200                           | 200                              | 89                                        | --                                                     | 660,000           | 1,300,000               | 14,000           | 19,000                 | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| 1,1,2-Trichloroethane                                | 5                             | 5                                | 330                                       | --                                                     | 17,000            | 110,000                 | 14               | 20                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Trichloroethene                                      | 5                             | 5                                | 200                                       | --                                                     | 2,200             | 4,900                   | 10               | 10                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Trifluorotrichloroethane (Freon 113)                 | 170,000                       | 170,000                          | 32                                        | --                                                     | 170,000           | 170,000                 | 2,700            | 26,000                 | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Vinyl chloride                                       | 2                             | 2                                | 13                                        | --                                                     | 1,100             | 13,000                  | 2.1              | 18                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| m&p-Xylene                                           | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 2 U                                      | < 2 U                                      | < 2 U                                    | < 2 U                                    | < 2 U                                    | < 2 U                                    |
| o-Xylene                                             | NA                            | NA                               | NA                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    |
| Total Xylenes*                                       | 280                           | 280                              | 49                                        | 10,000                                                 | 190,000           | 190,000                 | 2,000            | 3,000                  | ug/L  | < 2 U                                      | < 2 U                                      | < 2 U                                    | < 2 U                                    | < 2 U                                    | < 2 U                                    |

See Notes on last page.

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| Location ID:<br>Date Collected:<br>Sample Name: | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVIIc | Nonresidential<br>GVIIc | Residential VIAP | Nonresidential<br>VIAP | Units | MWM31-02<br>09/29/22<br>MWM31-02_GW-092922 | MWM32-01<br>09/29/22<br>MWM32-01_GW-092922 | MWOS-01<br>10/03/22<br>MWOS-01_GW-100322 | MWOS-02<br>09/30/22<br>MWOS-02_GW-093022 | MWOS-03<br>10/03/22<br>MWOS-03_GW-100322 | MWW1-04<br>09/29/22<br>MWW1-04_GW-092922 |
|-------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|--------------------------------------------|--------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
| Volatile Organics-SIM                           |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                          |                                          |                                          |                                          |
| 1,4-Dioxane                                     | 7.2                           | 350                              | 280                                       | --                                                     | --                | --                      | 56,000           | 130,000                | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | < 1 U                                    |
| Inorganics                                      |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                          |                                          |                                          |                                          |
| Antimony                                        | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | < 5 U                                    |
| Arsenic                                         | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Barium                                          | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Beryllium                                       | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Cadmium                                         | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Calcium                                         | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | 71,500                                   |
| Chromium                                        | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Cobalt                                          | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Copper*                                         | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Iron*                                           | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | 30                                       |
| Lead                                            | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Magnesium                                       | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | 900                                      |
| Manganese*                                      | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | 424                                      | 380                                      | NA                                       | NA                                       |
| Mercury                                         | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Nickel                                          | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Selenium                                        | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Silver                                          | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Thallium                                        | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Vanadium                                        | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | < 5 U                                    | 7                                        |
| Zinc*                                           | 2,400                         | 5,000                            | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Inorganics-Filtered                             |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                          |                                          |                                          |                                          |
| Antimony (dissolved)                            | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Arsenic (dissolved)                             | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Barium (dissolved)                              | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Beryllium (dissolved)                           | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Cadmium (dissolved)                             | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Calcium (dissolved)                             | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Chromium Total (dissolved)                      | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Cobalt (dissolved)                              | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Copper (dissolved)*                             | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Iron (dissolved)                                | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Lead (dissolved)                                | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Magnesium (dissolved)                           | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Manganese (dissolved)*                          | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | 293                                      | 315                                      | NA                                       | NA                                       |
| Mercury (dissolved)                             | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Nickel (dissolved)                              | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Selenium (dissolved)                            | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Silver (dissolved)                              | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Thallium (dissolved)                            | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Vanadium (dissolved)                            | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | < 5 U                                    | NA                                       |
| Zinc (dissolved)*                               | 2,400                         | 5000                             | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | NA                                       |
| Miscellaneous                                   |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                          |                                          |                                          |                                          |
| Alkalinity, total (as CaCO3)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | 120,000                                  |
| Hardness                                        | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | 183,000                                  |
| Total dissolved solids (TDS)                    | 500,000                       | 500,000                          | 500,000                                   | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | 416,000                                  |
| Total suspended solids (TSS)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                       | NA                                       | NA                                       | < 3,000 U                                |

Table 3  
Summary of Groundwater Analytical Results - Non-Fiero  
2022 Annual Groundwater Monitoring Report  
RACER Trust Pontiac North Campus

| Location ID:<br>Date Collected:<br>Sample Name:      | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVIIC | Nonresidential<br>GVIIC | Residential VIAP | Nonresidential<br>VIAP | Units | MWW01-SEN03<br>09/28/22<br>MWW01-SEN03_GW-092822 | MWW01-SEN04<br>09/28/22<br>MWW01-SEN04_GW-092822 | MWW10-03<br>09/27/22<br>MWW10-03_GW-092722 | MWW1-15<br>09/26/22<br>MWW1-15_GW-092622 | MWW5-01R<br>09/28/22<br>MWW5-01R_GW-092822 | TW-09-01<br>09/28/22<br>TW-09-01_GW-092822 |
|------------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------|------------------------------------------|--------------------------------------------|--------------------------------------------|
| Field Parameters                                     |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                                  |                                                  |                                            |                                          |                                            |                                            |
| pH*                                                  | 6.5-8.5                       | 6.5-8.5                          | 6.5-9.0                                   | --                                                     | --                | --                      | --               | --                     | SU    | 7.11                                             | 7.11                                             | 6.70                                       | 7.35                                     | 6.96                                       | 6.99                                       |
| Turbidity                                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | NTU   | 1.68                                             | 1.16                                             | 131.00                                     | 1.09                                     | 0.02                                       | 5.74                                       |
| PCBs                                                 |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                                  |                                                  |                                            |                                          |                                            |                                            |
| Aroclor-1016 (PCB-1016)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                          | < 0.1 U                                          | < 0.1 U [< 0.1 U]                          | < 0.1 U                                  | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1221 (PCB-1221)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                          | < 0.1 U                                          | < 0.1 U [< 0.1 U]                          | < 0.1 U                                  | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1232 (PCB-1232)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                          | < 0.1 U                                          | < 0.1 U [< 0.1 U]                          | < 0.1 U                                  | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1242 (PCB-1242)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                          | 0.1                                              | < 0.1 U [< 0.1 U]                          | < 0.1 U                                  | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1248 (PCB-1248)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                          | < 0.1 U                                          | < 0.1 U [< 0.1 U]                          | < 0.1 U                                  | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1254 (PCB-1254)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                          | < 0.1 U                                          | < 0.1 U [< 0.1 U]                          | < 0.1 U                                  | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1260 (PCB-1260)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                          | < 0.1 U                                          | < 0.1 U [< 0.1 U]                          | < 0.1 U                                  | < 0.1 U                                    | < 0.1 U                                    |
| Total PCBs                                           | 0.5                           | 0.5                              | 0.2                                       | --                                                     | 45                | 45                      | 0.031            | 0.97                   | ug/L  | < 0.1 U                                          | 0.1                                              | < 0.1 U [< 0.1 U]                          | < 0.1 U                                  | < 0.1 U                                    | < 0.1 U                                    |
| Volatile Organics                                    |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                                  |                                                  |                                            |                                          |                                            |                                            |
| Acetone                                              | 730                           | 2,100                            | 1,700                                     | --                                                     | 1,000,000.000     | 1,000,000.000           | 40,000,000       | 40,000,000             | ug/L  | < 50 U                                           | < 50 U                                           | < 50 U [< 50 U]                            | < 50 U                                   | < 50 U                                     | < 50 U                                     |
| Benzene                                              | 5                             | 5                                | 200                                       | --                                                     | 5,600             | 35,000                  | 28               | 66                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Bromodichloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 4,800             | 37,000                  | 34               | 73                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Bromoform                                            | 80                            | 80                               | --                                        | --                                                     | 470,000           | 3,100,000               | 2,700            | 6,200                  | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Bromomethane (Methyl bromide)                        | 10                            | 29                               | 5                                         | --                                                     | 4,000             | 9,000                   | 55               | 80                     | ug/L  | < 5 U                                            | < 5 U                                            | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                      | < 5 U                                      |
| 2-Butanone (Methyl ethyl ketone) (MEK)               | 13,000                        | 38,000                           | 2,200                                     | --                                                     | 240,000.000       | 240,000.000             | 4,300,000        | 4,300,000              | ug/L  | < 25 U                                           | < 25 U                                           | < 25 U [< 25 U]                            | < 25 U                                   | < 25 U                                     | < 25 U                                     |
| Carbon disulfide                                     | 800                           | 2,300                            | --                                        | --                                                     | 250,000           | 550,000                 | 2,100            | 3,100                  | ug/L  | < 5 U                                            | < 5 U                                            | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                      | < 5 U                                      |
| Carbon tetrachloride                                 | 5                             | 5                                | 38                                        | --                                                     | 370               | 2,400                   | 7.7              | 18                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Trichlorofluoromethane (CFC-11)                      | 2,600                         | 7,300                            | --                                        | --                                                     | 1,100,000         | 1,100,000               | 190              | 560                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Dichlorodifluoromethane (CFC-12)                     | 1,700                         | 4,800                            | --                                        | --                                                     | 220,000           | 300,000                 | 49               | 410                    | ug/L  | < 5 U                                            | < 5 U                                            | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                      | < 5 U                                      |
| Chlorobenzene                                        | 100                           | 100                              | 25                                        | --                                                     | 210,000           | 470,000                 | 940              | 1,400                  | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Dibromochloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 14,000            | 110,000                 | 23               | 130                    | ug/L  | < 5 U                                            | < 5 U                                            | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                      | < 5 U                                      |
| Chloroethane                                         | 430                           | 1,700                            | 1,100                                     | --                                                     | 5,700,000         | 5,700,000               | 15,000           | 22,000                 | ug/L  | < 5 U                                            | < 5 U                                            | < 5 U [< 5 U]                              | < 5 U                                    | 43                                         | < 5 U                                      |
| Chloroform (Trichloromethane)                        | 80                            | 80                               | 350                                       | --                                                     | 28,000            | 180,000                 | 14               | 32                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Chloromethane (Methyl chloride)                      | 260                           | 1,100                            | --                                        | --                                                     | 8,600             | 45,000                  | 380              | 560                    | ug/L  | < 5 U                                            | < 5 U                                            | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                      | < 5 U                                      |
| Cyclohexane                                          | --                            | --                               | --                                        | --                                                     | --                | --                      | 2,000            | 8,100                  | ug/L  | 1                                                | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| 1,2-Dibromo-3-chloropropane (DBCP)                   | 0.2                           | 0.2                              | --                                        | --                                                     | 220               | 1,200                   | 0.00045          | 0.021                  | ug/L  | < 5 U                                            | < 5 U                                            | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                      | < 5 U                                      |
| 1,2-Dibromoethane (Ethylene dibromide)               | 0.05                          | 0.05                             | 5.7                                       | --                                                     | 2,400             | 15,000                  | 3.8              | 8.9                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| 1,2-Dichlorobenzene                                  | 600                           | 600                              | 13                                        | --                                                     | 160,000           | 160,000                 | 11,000           | 16,000                 | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| 1,3-Dichlorobenzene                                  | 6.6                           | 19                               | 28                                        | --                                                     | 18,000            | 41,000                  | 75               | 110                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| 1,4-Dichlorobenzene                                  | 75                            | 75                               | 17                                        | --                                                     | 16,000            | 74,000                  | 170              | 400                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| 1,1-Dichloroethane                                   | 880                           | 2,500                            | 740                                       | --                                                     | 1,000,000         | 2,300,000               | 130              | 300                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| 1,2-Dichloroethane                                   | 5                             | 5                                | 360                                       | --                                                     | 9,600             | 59,000                  | 41               | 97                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| 1,1-Dichloroethene                                   | 7                             | 7                                | 130                                       | --                                                     | 200               | 1,300                   | 330              | 480                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| cis-1,2-Dichloroethene                               | 70                            | 70                               | 620                                       | --                                                     | 93,000            | 210,000                 | 95               | 140                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| trans-1,2-Dichloroethene                             | 100                           | 100                              | 1,500                                     | --                                                     | 85,000            | 200,000                 | 390              | 580                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Methylene chloride                                   | 5                             | 5                                | 1,500                                     | --                                                     | 220,000           | 1,400,000               | 8,400            | 12,000                 | ug/L  | < 5 U                                            | < 5 U                                            | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                      | < 5 U                                      |
| 1,2-Dichloropropane                                  | 5                             | 5                                | 230                                       | --                                                     | 16,000            | 36,000                  | 74               | 110                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| cis-1,3-Dichloropropene                              | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| trans-1,3-Dichloropropene                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Ethylbenzene*                                        | 74                            | 74                               | 18                                        | 700                                                    | 110,000           | 170,000                 | 74               | 170                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Isopropyl benzene                                    | 800                           | 2,300                            | 28                                        | --                                                     | 56,000            | 56,000                  | 15               | 36                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Methyl acetate                                       | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 10 U                                           | < 10 U                                           | < 10 U [< 10 U]                            | < 10 U                                   | < 10 U                                     | < 10 U                                     |
| 2-Hexanone                                           | 1,000                         | 2,900                            | --                                        | --                                                     | 4,200,000         | 8,700,000               | 20,000           | 29,000                 | ug/L  | < 50 U                                           | < 50 U                                           | < 50 U [< 50 U]                            | < 50 U                                   | < 50 U                                     | < 50 U                                     |
| Methyl cyclohexane                                   | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) | 1,800                         | 5,200                            | --                                        | --                                                     | 20,000.000        | 20,000.000              | 330,000          | 330,000                | ug/L  | < 50 U                                           | < 50 U                                           | < 50 U [< 50 U]                            | < 50 U                                   | < 50 U                                     | < 50 U                                     |
| Methyl tert butyl ether (MTBE)*                      | 40                            | 40                               | 7,100                                     | 690                                                    | 47,000.000        | 47,000.000              | 7,400            | 17,000                 | ug/L  | < 5 U                                            | < 5 U                                            | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                      | < 5 U                                      |
| Styrene                                              | 100                           | 100                              | 80                                        | --                                                     | 170,000           | 310,000                 | 960              | 2,300                  | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| 1,1,2,2-Tetrachloroethane                            | 8.5                           | 35                               | 78                                        | --                                                     | 12,000            | 77,000                  | 71               | 170                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Tetrachloroethene                                    | 5                             | 5                                | 60                                        | --                                                     | 25,000            | 170,000                 | 130              | 130                    | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Toluene*                                             | 790                           | 790                              | 270                                       | 1,000                                                  | 530,000           | 530,000                 | 41,000           | 59,000                 | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| 1,2,4-Trichlorobenzene                               | 70                            | 70                               | 99                                        | --                                                     | 300,000           | 300,000                 | 110              | 160                    | ug/L  | < 5 U                                            | < 5 U                                            | < 5 U [< 5 U]                              | < 5 U                                    | < 5 U                                      | < 5 U                                      |
| 1,1,1-Trichloroethane                                | 200                           | 200                              | 89                                        | --                                                     | 660,000           | 1,300,000               | 14,000           | 19,000                 | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| 1,1,2-Trichloroethane                                | 5                             | 5                                | 330                                       | --                                                     | 17,000            | 110,000                 | 14               | 20                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Trichloroethene                                      | 5                             | 5                                | 200                                       | --                                                     | 2,200             | 4,900                   | 10               | 10                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Trifluorotrichloroethane (Freon 113)                 | 170,000                       | 170,000                          | 32                                        | --                                                     | 170,000           | 170,000                 | 2,700            | 26,000                 | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Vinyl chloride                                       | 2                             | 2                                | 13                                        | --                                                     | 1,100             | 13,000                  | 2.1              | 18                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| m&p-Xylene                                           | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 2 U                                            | < 2 U                                            | < 2 U [< 2 U]                              | < 2 U                                    | < 2 U                                      | < 2 U                                      |
| o-Xylene                                             | NA                            | NA                               | NA                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                            | < 1 U                                            | < 1 U [< 1 U]                              | < 1 U                                    | < 1 U                                      | < 1 U                                      |
| Total Xylenes*                                       | 280                           | 280                              | 49                                        | 10,000                                                 | 190,000           | 190,000                 | 2,000            | 3,000                  | ug/L  | < 2 U                                            | < 2 U                                            | < 2 U [< 2 U]                              | < 2 U                                    | < 2 U                                      | < 2 U                                      |

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Table 3  
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| Location ID:<br>Date Collected:<br>Sample Name: | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVIIc | Nonresidential<br>GVIIc | Residential VIAP | Nonresidential<br>VIAP |       | MWW01-SEN03<br>09/28/22 | MWW01-SEN04<br>09/28/22 | MWW10-03<br>09/27/22 | MWW1-15<br>09/26/22 | MWW5-01R<br>09/28/22 | TW-09-01<br>09/28/22 |
|-------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|-------------------------|-------------------------|----------------------|---------------------|----------------------|----------------------|
|                                                 |                               |                                  |                                           |                                                        |                   |                         |                  |                        | Units | MWW01-SEN03_GW-092822   | MWW01-SEN04_GW-092822   | MWW10-03_GW-092722   | MWW1-15_GW-092622   | MWW5-01R_GW-092822   | TW-09-01_GW-092822   |
| Volatile Organics-SIM                           |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                         |                         |                      |                     |                      |                      |
| 1,4-Dioxane                                     | 7.2                           | 350                              | 280                                       | --                                                     | --                | --                      | 56,000           | 130,000                | ug/L  | 8                       | NA                      | NA                   | NA                  | NA                   | NA                   |
| Inorganics                                      |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                         |                         |                      |                     |                      |                      |
| Antimony                                        | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                   | < 5 U                   | NA                   | < 5 U               | < 5 U                | < 5 U                |
| Arsenic                                         | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 5                       | 6                       | NA                   | 4                   | 28                   | 34                   |
| Barium                                          | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | 115                     | 155                     | NA                   | 248                 | 129                  | 387                  |
| Beryllium                                       | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                   | < 1 U                   | NA                   | < 1 U               | < 1 U                | < 1 U                |
| Cadmium                                         | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.5 U                 | < 0.5 U                 | NA                   | < 0.5 U             | < 0.5 U              | < 0.5 U              |
| Calcium                                         | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 48,600                  | 115,000                 | NA                   | 136,000             | 187,000              | 122,000              |
| Chromium                                        | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 6                       | < 5 U                   | NA                   | < 5 U               | < 5 U                | < 5 U                |
| Cobalt                                          | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                   | < 5 U                   | NA                   | < 5 U               | < 5 U                | < 5 U                |
| Copper*                                         | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | < 5 U                   | < 5 U                   | NA                   | < 5 U               | < 5 U                | < 5 U                |
| Iron*                                           | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | 17,300                  | 11,300                  | NA                   | 12,100              | 10,000               | 10,100               |
| Lead                                            | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 3 U                   | 12                      | 95 [ 28]             | < 3 U               | < 3 U                | < 3 U                |
| Magnesium                                       | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 13,500                  | 35,900                  | NA                   | 50,800              | 31,000               | 29,700               |
| Manganese*                                      | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | 308                     | 454                     | 11,000 [4,450]       | 368                 | 634                  | 981                  |
| Mercury                                         | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | < 0.2 U                 | < 0.2 U                 | NA                   | < 0.2 U             | < 0.2 U              | < 0.2 U              |
| Nickel                                          | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 5                       | < 5 U                   | NA                   | < 5 U               | 6                    | 8                    |
| Selenium                                        | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                   | < 5 U                   | NA                   | < 5 U               | < 5 U                | < 5 U                |
| Silver                                          | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.5 U                 | < 0.5 U                 | NA                   | < 0.5 U             | < 0.5 U              | < 0.5 U              |
| Thallium                                        | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 2 U                   | < 2 U                   | NA                   | < 2 U               | < 2 U                | < 2 U                |
| Vanadium                                        | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                   | < 5 U                   | NA                   | < 5 U               | < 5 U                | < 5 U                |
| Zinc*                                           | 2,400                         | 5,000                            | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | 5                       | < 5 U                   | NA                   | < 5 U               | < 5 U                | < 5 U                |
| Inorganics-Filtered                             |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                         |                         |                      |                     |                      |                      |
| Antimony (dissolved)                            | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Arsenic (dissolved)                             | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Barium (dissolved)                              | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Beryllium (dissolved)                           | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Cadmium (dissolved)                             | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Calcium (dissolved)                             | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Chromium Total (dissolved)                      | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Cobalt (dissolved)                              | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Copper (dissolved)*                             | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Iron (dissolved)                                | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Lead (dissolved)                                | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | < 3 U [< 3 U]        | NA                  | NA                   | NA                   |
| Magnesium (dissolved)                           | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Manganese (dissolved)*                          | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | 84 [ 77]             | NA                  | NA                   | NA                   |
| Mercury (dissolved)                             | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Nickel (dissolved)                              | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Selenium (dissolved)                            | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Silver (dissolved)                              | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Thallium (dissolved)                            | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Vanadium (dissolved)                            | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Zinc (dissolved)*                               | 2,400                         | 5000                             | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                      | NA                      | NA                   | NA                  | NA                   | NA                   |
| Miscellaneous                                   |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                         |                         |                      |                     |                      |                      |
| Alkalinity, total (as CaCO3)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 306,000                 | 304,000                 | NA                   | 482,000             | 508,000              | 414,000              |
| Hardness                                        | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 124,000                 | 305,000                 | NA                   | 355,000             | 488,000              | 318,000              |
| Total dissolved solids (TDS)                    | 500,000                       | 500,000                          | 500,000                                   | --                                                     | --                | --                      | --               | --                     | ug/L  | 1,230,000               | 1,060,000               | NA                   | 1,250,000           | 1,100,000            | 920,000              |
| Total suspended solids (TSS)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 38,000                  | 25,000                  | NA                   | 26,000              | 33,000               | 31,000               |

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| Location ID:<br>Date Collected:<br>Sample Name:      | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVILC | Nonresidential<br>GVILC | Residential VIAP | Nonresidential<br>VIAP | Units | TW-10-02<br>09/27/22<br>TW-10-02_GW-092722 | TW-MD-01<br>09/26/22<br>TW-MD-01_GW-092622 | TW-MD-02<br>09/27/22<br>TW-MD-02_GW-092722 | TW-MD-03<br>09/27/22<br>TW-MD-03_GW-092722 | TW-MD-04<br>09/27/22<br>TW-MD-04_GW-092722 | TW-MD-05<br>09/27/22<br>TW-MD-05_GW-092722 |
|------------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
| Field Parameters                                     |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                            |                                            |
| pH*                                                  | 6.5-8.5                       | 6.5-8.5                          | 6.5-9.0                                   | --                                                     | --                | --                      | --               | --                     | SU    | 6.57                                       | 6.91                                       | 6.87                                       | 6.93                                       | 7.20                                       | 7.22                                       |
| Turbidity                                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | NTU   | 0.02                                       | 0.02                                       | 1.89                                       | 0.39                                       | 0.02                                       | 0.02                                       |
| PCBs                                                 |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                            |                                            |
| Aroclor-1016 (PCB-1016)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1221 (PCB-1221)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1232 (PCB-1232)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1242 (PCB-1242)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1248 (PCB-1248)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1254 (PCB-1254)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1260 (PCB-1260)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    |
| Total PCBs                                           | 0.5                           | 0.5                              | 0.2                                       | --                                                     | 45                | 45                      | 0.031            | 0.97                   | ug/L  | NA                                         | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    | < 0.1 U                                    |
| Volatile Organics                                    |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                            |                                            |
| Acetone                                              | 730                           | 2,100                            | 1,700                                     | --                                                     | 1,000,000.000     | 1,000,000.000           | 40,000,000       | 40,000,000             | ug/L  | NA                                         | < 50 U                                     | < 50 U                                     | < 50 U                                     | < 50 U                                     | < 50 U                                     |
| Benzene                                              | 5                             | 5                                | 200                                       | --                                                     | 5,600             | 35,000                  | 28               | 66                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Bromodichloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 4,800             | 37,000                  | 34               | 73                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Bromoform                                            | 80                            | 80                               | --                                        | --                                                     | 470,000           | 3,100,000               | 2,700            | 6,200                  | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Bromomethane (Methyl bromide)                        | 10                            | 29                               | 5                                         | --                                                     | 4,000             | 9,000                   | 55               | 80                     | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| 2-Butanone (Methyl ethyl ketone) (MEK)               | 13,000                        | 38,000                           | 2,200                                     | --                                                     | 240,000.000       | 240,000.000             | 4,300,000        | 4,300,000              | ug/L  | NA                                         | < 25 U                                     | < 25 U                                     | < 25 U                                     | < 25 U                                     | < 25 U                                     |
| Carbon disulfide                                     | 800                           | 2,300                            | --                                        | --                                                     | 250,000           | 550,000                 | 2,100            | 3,100                  | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Carbon tetrachloride                                 | 5                             | 5                                | 38                                        | --                                                     | 370               | 2,400                   | 7.7              | 18                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Trichlorofluoromethane (CFC-11)                      | 2,600                         | 7,300                            | --                                        | --                                                     | 1,100,000         | 1,100,000               | 190              | 560                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Dichlorodifluoromethane (CFC-12)                     | 1,700                         | 4,800                            | --                                        | --                                                     | 220,000           | 300,000                 | 49               | 410                    | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Chlorobenzene                                        | 100                           | 100                              | 25                                        | --                                                     | 210,000           | 470,000                 | 940              | 1,400                  | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Dibromochloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 14,000            | 110,000                 | 23               | 130                    | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Chloroethane                                         | 430                           | 1,700                            | 1,100                                     | --                                                     | 5,700,000         | 5,700,000               | 15,000           | 22,000                 | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Chloroform (Trichloromethane)                        | 80                            | 80                               | 350                                       | --                                                     | 28,000            | 180,000                 | 14               | 32                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Chloromethane (Methyl chloride)                      | 260                           | 1,100                            | --                                        | --                                                     | 8,600             | 45,000                  | 380              | 560                    | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Cyclohexane                                          | --                            | --                               | --                                        | --                                                     | --                | --                      | 2,000            | 8,100                  | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| 1,2-Dibromo-3-chloropropane (DBCP)                   | 0.2                           | 0.2                              | --                                        | --                                                     | 220               | 1,200                   | 0.00045          | 0.021                  | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| 1,2-Dibromoethane (Ethylene dibromide)               | 0.05                          | 0.05                             | 5.7                                       | --                                                     | 2,400             | 15,000                  | 3.8              | 8.9                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| 1,2-Dichlorobenzene                                  | 600                           | 600                              | 13                                        | --                                                     | 160,000           | 160,000                 | 11,000           | 16,000                 | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| 1,3-Dichlorobenzene                                  | 6.6                           | 19                               | 28                                        | --                                                     | 18,000            | 41,000                  | 75               | 110                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| 1,4-Dichlorobenzene                                  | 75                            | 75                               | 17                                        | --                                                     | 16,000            | 74,000                  | 170              | 400                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| 1,1-Dichloroethane                                   | 880                           | 2,500                            | 740                                       | --                                                     | 1,000,000         | 2,300,000               | 130              | 300                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| 1,2-Dichloroethane                                   | 5                             | 5                                | 360                                       | --                                                     | 9,600             | 59,000                  | 41               | 97                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| 1,1-Dichloroethene                                   | 7                             | 7                                | 130                                       | --                                                     | 200               | 1,300                   | 330              | 480                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| cis-1,2-Dichloroethene                               | 70                            | 70                               | 620                                       | --                                                     | 93,000            | 210,000                 | 95               | 140                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| trans-1,2-Dichloroethene                             | 100                           | 100                              | 1,500                                     | --                                                     | 85,000            | 200,000                 | 390              | 580                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Methylene chloride                                   | 5                             | 5                                | 1,500                                     | --                                                     | 220,000           | 1,400,000               | 8,400            | 12,000                 | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| 1,2-Dichloropropane                                  | 5                             | 5                                | 230                                       | --                                                     | 16,000            | 36,000                  | 74               | 110                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| cis-1,3-Dichloropropene                              | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| trans-1,3-Dichloropropene                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Ethylbenzene*                                        | 74                            | 74                               | 18                                        | 700                                                    | 110,000           | 170,000                 | 74               | 170                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Isopropyl benzene                                    | 800                           | 2,300                            | 28                                        | --                                                     | 56,000            | 56,000                  | 15               | 36                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Methyl acetate                                       | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 10 U                                     | < 10 U                                     | < 10 U                                     | < 10 U                                     | < 10 U                                     |
| 2-Hexanone                                           | 1,000                         | 2,900                            | --                                        | --                                                     | 4,200,000         | 8,700,000               | 20,000           | 29,000                 | ug/L  | NA                                         | < 50 U                                     | < 50 U                                     | < 50 U                                     | < 50 U                                     | < 50 U                                     |
| Methyl cyclohexane                                   | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) | 1,800                         | 5,200                            | --                                        | --                                                     | 20,000.000        | 20,000.000              | 330,000          | 330,000                | ug/L  | NA                                         | < 50 U                                     | < 50 U                                     | < 50 U                                     | < 50 U                                     | < 50 U                                     |
| Methyl tert butyl ether (MTBE)*                      | 40                            | 40                               | 7,100                                     | 690                                                    | 47,000.000        | 47,000.000              | 7,400            | 17,000                 | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Styrene                                              | 100                           | 100                              | 80                                        | --                                                     | 170,000           | 310,000                 | 960              | 2,300                  | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| 1,1,2,2-Tetrachloroethane                            | 8.5                           | 35                               | 78                                        | --                                                     | 12,000            | 77,000                  | 71               | 170                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Tetrachloroethene                                    | 5                             | 5                                | 60                                        | --                                                     | 25,000            | 170,000                 | 130              | 130                    | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Toluene*                                             | 790                           | 790                              | 270                                       | 1,000                                                  | 530,000           | 530,000                 | 41,000           | 59,000                 | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| 1,2,4-Trichlorobenzene                               | 70                            | 70                               | 99                                        | --                                                     | 300,000           | 300,000                 | 110              | 160                    | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| 1,1,1-Trichloroethane                                | 200                           | 200                              | 89                                        | --                                                     | 660,000           | 1,300,000               | 14,000           | 19,000                 | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| 1,1,2-Trichloroethane                                | 5                             | 5                                | 330                                       | --                                                     | 17,000            | 110,000                 | 14               | 20                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Trichloroethene                                      | 5                             | 5                                | 200                                       | --                                                     | 2,200             | 4,900                   | 10               | 10                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Trifluorotrichloroethane (Freon 113)                 | 170,000                       | 170,000                          | 32                                        | --                                                     | 170,000           | 170,000                 | 2,700            | 26,000                 | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Vinyl chloride                                       | 2                             | 2                                | 13                                        | --                                                     | 1,100             | 13,000                  | 2.1              | 18                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| m&p-Xylene                                           | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 2 U                                      | < 2 U                                      | < 2 U                                      | < 2 U                                      | < 2 U                                      |
| o-Xylene                                             | NA                            | NA                               | NA                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Total Xylenes*                                       | 280                           | 280                              | 49                                        | 10,000                                                 | 190,000           | 190,000                 | 2,000            | 3,000                  | ug/L  | NA                                         | < 2 U                                      | < 2 U                                      | < 2 U                                      | < 2 U                                      | < 2 U                                      |

See Notes on last page.

Table 3  
Summary of Groundwater Analytical Results - Non-Fiero  
2022 Annual Groundwater Monitoring Report  
RACER Trust Pontiac North Campus

| Location ID:<br>Date Collected:<br>Sample Name: | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVIIc | Nonresidential<br>GVIIc | Residential VIAP | Nonresidential<br>VIAP | Units | TW-10-02<br>09/27/22<br>TW-10-02_GW-092722 | TW-MD-01<br>09/26/22<br>TW-MD-01_GW-092622 | TW-MD-02<br>09/27/22<br>TW-MD-02_GW-092722 | TW-MD-03<br>09/27/22<br>TW-MD-03_GW-092722 | TW-MD-04<br>09/27/22<br>TW-MD-04_GW-092722 | TW-MD-05<br>09/27/22<br>TW-MD-05_GW-092722 |
|-------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
| Volatile Organics-SIM                           |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                            |                                            |
| 1,4-Dioxane                                     | 7.2                           | 350                              | 280                                       | --                                                     | --                | --                      | 56,000           | 130,000                | ug/L  | 29                                         | 2                                          | NA                                         | NA                                         | NA                                         | NA                                         |
| Inorganics                                      |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                            |                                            |
| Antimony                                        | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Arsenic                                         | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | 2                                          | 8                                          | 4                                          | 6                                          | 6                                          |
| Barium                                          | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | 92                                         | 228                                        | 106                                        | 130                                        | 124                                        |
| Beryllium                                       | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      | < 1 U                                      |
| Cadmium                                         | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 0.5 U                                    | < 0.5 U                                    | < 0.5 U                                    | < 0.5 U                                    | < 0.5 U                                    |
| Calcium                                         | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | 113,000                                    | 128,000                                    | 128,000                                    | 84,400                                     | 60,600                                     |
| Chromium                                        | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Cobalt                                          | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Copper*                                         | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | 9                                          |
| Iron*                                           | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | 1,750                                      | 9,520                                      | 8,700                                      | 11,700                                     | 10,400                                     |
| Lead                                            | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 3 U                                      | < 3 U                                      | < 3 U                                      | < 3 U                                      | < 3 U                                      |
| Magnesium                                       | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | 28,800                                     | 24,200                                     | 25,800                                     | 19,500                                     | 18,700                                     |
| Manganese*                                      | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | 498                                        | 968                                        | 1,640                                      | 356                                        | 398                                        |
| Mercury                                         | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | NA                                         | < 0.2 U                                    | < 0.2 U                                    | < 0.2 U                                    | < 0.2 U                                    | < 0.2 U                                    |
| Nickel                                          | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | 10                                         | 12                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Selenium                                        | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Silver                                          | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 0.5 U                                    | < 0.5 U                                    | < 0.5 U                                    | < 0.5 U                                    | < 0.5 U                                    |
| Thallium                                        | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 2 U                                      | < 2 U                                      | < 2 U                                      | < 2 U                                      | < 2 U                                      |
| Vanadium                                        | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      | < 5 U                                      |
| Zinc*                                           | 2,400                         | 5,000                            | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | 9                                          | 5                                          | 7                                          | 5                                          | < 5 U                                      |
| Inorganics-Filtered                             |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                            |                                            |
| Antimony (dissolved)                            | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Arsenic (dissolved)                             | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Barium (dissolved)                              | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Beryllium (dissolved)                           | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Cadmium (dissolved)                             | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Calcium (dissolved)                             | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Chromium Total (dissolved)                      | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Cobalt (dissolved)                              | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Copper (dissolved)*                             | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Iron (dissolved)                                | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Lead (dissolved)                                | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Magnesium (dissolved)                           | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Manganese (dissolved)*                          | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Mercury (dissolved)                             | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Nickel (dissolved)                              | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Selenium (dissolved)                            | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Silver (dissolved)                              | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Thallium (dissolved)                            | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Vanadium (dissolved)                            | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Zinc (dissolved)*                               | 2,400                         | 5000                             | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         | NA                                         |
| Miscellaneous                                   |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |                                            |                                            |                                            |                                            |
| Alkalinity, total (as CaCO3)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | 416,000                                    | 344,000                                    | 338,000                                    | 318,000                                    | 264,000                                    |
| Hardness                                        | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | 287,000                                    | 302,000                                    | 332,000                                    | 212,000                                    | 138,000                                    |
| Total dissolved solids (TDS)                    | 500,000                       | 500,000                          | 500,000                                   | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | 1,188,000                                  | 1,390,000                                  | 1,390,000                                  | 1,300,000                                  | 1,190,000                                  |
| Total suspended solids (TSS)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | 3,000                                      | 18,000                                     | 17,000                                     | 26,000                                     | 22,000                                     |



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| Location ID:<br>Date Collected:<br>Sample Name:      | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVIIC | Nonresidential<br>GVIIC | Residential VIAP | Nonresidential<br>VIAP | Units | TW-MD-06<br>09/27/22<br>TW-MD-06_GW-092722 | TW-MD-07<br>09/27/22<br>TW-MD-07_GW-092722 |
|------------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|--------------------------------------------|--------------------------------------------|
| Field Parameters                                     |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |
| pH*                                                  | 6.5-8.5                       | 6.5-8.5                          | 6.5-9.0                                   | --                                                     | --                | --                      | --               | --                     | SU    | 7.16                                       | 6.98                                       |
| Turbidity                                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | NTU   | 0.02                                       | 0.02                                       |
| PCBs                                                 |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |
| Aroclor-1016 (PCB-1016)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1221 (PCB-1221)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1232 (PCB-1232)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1242 (PCB-1242)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1248 (PCB-1248)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | 0.6                                        | < 0.1 U                                    |
| Aroclor-1254 (PCB-1254)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                    | < 0.1 U                                    |
| Aroclor-1260 (PCB-1260)                              | 0.5                           | 0.5                              | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.1 U                                    | < 0.1 U                                    |
| Total PCBs                                           | 0.5                           | 0.5                              | 0.2                                       | --                                                     | 45                | 45                      | 0.031            | 0.97                   | ug/L  | 0.6                                        | < 0.1 U                                    |
| Volatile Organics                                    |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |
| Acetone                                              | 730                           | 2,100                            | 1,700                                     | --                                                     | 1,000,000.000     | 1,000,000.000           | 40,000,000       | 40,000,000             | ug/L  | < 50 U                                     | < 50 U                                     |
| Benzene                                              | 5                             | 5                                | 200                                       | --                                                     | 5,600             | 35,000                  | 28               | 66                     | ug/L  | < 1 U                                      | < 1 U                                      |
| Bromodichloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 4,800             | 37,000                  | 34               | 73                     | ug/L  | < 1 U                                      | < 1 U                                      |
| Bromoforn                                            | 80                            | 80                               | --                                        | --                                                     | 470,000           | 3,100,000               | 2,700            | 6,200                  | ug/L  | < 1 U                                      | < 1 U                                      |
| Bromomethane (Methyl bromide)                        | 10                            | 29                               | 5                                         | --                                                     | 4,000             | 9,000                   | 55               | 80                     | ug/L  | < 5 U                                      | < 5 U                                      |
| 2-Butanone (Methyl ethyl ketone) (MEK)               | 13,000                        | 38,000                           | 2,200                                     | --                                                     | 240,000.000       | 240,000.000             | 4,300,000        | 4,300,000              | ug/L  | < 25 U                                     | < 25 U                                     |
| Carbon disulfide                                     | 800                           | 2,300                            | --                                        | --                                                     | 250,000           | 550,000                 | 2,100            | 3,100                  | ug/L  | < 5 U                                      | < 5 U                                      |
| Carbon tetrachloride                                 | 5                             | 5                                | 38                                        | --                                                     | 370               | 2,400                   | 7.7              | 18                     | ug/L  | < 1 U                                      | < 1 U                                      |
| Trichlorofluoromethane (CFC-11)                      | 2,600                         | 7,300                            | --                                        | --                                                     | 1,100,000         | 1,100,000               | 190              | 560                    | ug/L  | < 1 U                                      | < 1 U                                      |
| Dichlorodifluoromethane (CFC-12)                     | 1,700                         | 4,800                            | --                                        | --                                                     | 220,000           | 300,000                 | 49               | 410                    | ug/L  | < 5 U                                      | < 5 U                                      |
| Chlorobenzene                                        | 100                           | 100                              | 25                                        | --                                                     | 210,000           | 470,000                 | 940              | 1,400                  | ug/L  | < 1 U                                      | < 1 U                                      |
| Dibromochloromethane                                 | 80                            | 80                               | --                                        | --                                                     | 14,000            | 110,000                 | 23               | 130                    | ug/L  | < 5 U                                      | < 5 U                                      |
| Chloroethane                                         | 430                           | 1,700                            | 1,100                                     | --                                                     | 5,700,000         | 5,700,000               | 15,000           | 22,000                 | ug/L  | < 5 U                                      | < 5 U                                      |
| Chloroform (Trichloromethane)                        | 80                            | 80                               | 350                                       | --                                                     | 28,000            | 180,000                 | 14               | 32                     | ug/L  | < 1 U                                      | < 1 U                                      |
| Chloromethane (Methyl chloride)                      | 260                           | 1,100                            | --                                        | --                                                     | 8,600             | 45,000                  | 380              | 560                    | ug/L  | < 5 U                                      | < 5 U                                      |
| Cyclohexane                                          | --                            | --                               | --                                        | --                                                     | --                | --                      | 2,000            | 8,100                  | ug/L  | < 1 U                                      | < 1 U                                      |
| 1,2-Dibromo-3-chloropropane (DBCP)                   | 0.2                           | 0.2                              | --                                        | --                                                     | 220               | 1,200                   | 0.00045          | 0.021                  | ug/L  | < 5 U                                      | < 5 U                                      |
| 1,2-Dibromoethane (Ethylene dibromide)               | 0.05                          | 0.05                             | 5.7                                       | --                                                     | 2,400             | 15,000                  | 3.8              | 8.9                    | ug/L  | < 1 U                                      | < 1 U                                      |
| 1,2-Dichlorobenzene                                  | 600                           | 600                              | 13                                        | --                                                     | 160,000           | 160,000                 | 11,000           | 16,000                 | ug/L  | < 1 U                                      | < 1 U                                      |
| 1,3-Dichlorobenzene                                  | 6.6                           | 19                               | 28                                        | --                                                     | 18,000            | 41,000                  | 75               | 110                    | ug/L  | < 1 U                                      | < 1 U                                      |
| 1,4-Dichlorobenzene                                  | 75                            | 75                               | 17                                        | --                                                     | 16,000            | 74,000                  | 170              | 400                    | ug/L  | < 1 U                                      | < 1 U                                      |
| 1,1-Dichloroethane                                   | 880                           | 2,500                            | 740                                       | --                                                     | 1,000,000         | 2,300,000               | 130              | 300                    | ug/L  | < 1 U                                      | < 1 U                                      |
| 1,2-Dichloroethane                                   | 5                             | 5                                | 360                                       | --                                                     | 9,600             | 59,000                  | 41               | 97                     | ug/L  | < 1 U                                      | < 1 U                                      |
| 1,1-Dichloroethene                                   | 7                             | 7                                | 130                                       | --                                                     | 200               | 1,300                   | 330              | 480                    | ug/L  | < 1 U                                      | < 1 U                                      |
| cis-1,2-Dichloroethene                               | 70                            | 70                               | 620                                       | --                                                     | 93,000            | 210,000                 | 95               | 140                    | ug/L  | < 1 U                                      | < 1 U                                      |
| trans-1,2-Dichloroethene                             | 100                           | 100                              | 1,500                                     | --                                                     | 85,000            | 200,000                 | 390              | 580                    | ug/L  | < 1 U                                      | < 1 U                                      |
| Methylene chloride                                   | 5                             | 5                                | 1,500                                     | --                                                     | 220,000           | 1,400,000               | 8,400            | 12,000                 | ug/L  | < 5 U                                      | < 5 U                                      |
| 1,2-Dichloropropane                                  | 5                             | 5                                | 230                                       | --                                                     | 16,000            | 36,000                  | 74               | 110                    | ug/L  | < 1 U                                      | < 1 U                                      |
| cis-1,3-Dichloropropene                              | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U                                      |
| trans-1,3-Dichloropropene                            | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U                                      |
| Ethylbenzene*                                        | 74                            | 74                               | 18                                        | 700                                                    | 110,000           | 170,000                 | 74               | 170                    | ug/L  | < 1 U                                      | < 1 U                                      |
| Isopropyl benzene                                    | 800                           | 2,300                            | 28                                        | --                                                     | 56,000            | 56,000                  | 15               | 36                     | ug/L  | < 1 U                                      | < 1 U                                      |
| Methyl acetate                                       | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 10 U                                     | < 10 U                                     |
| 2-Hexanone                                           | 1,000                         | 2,900                            | --                                        | --                                                     | 4,200,000         | 8,700,000               | 20,000           | 29,000                 | ug/L  | < 50 U                                     | < 50 U                                     |
| Methyl cyclohexane                                   | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U                                      |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) | 1,800                         | 5,200                            | --                                        | --                                                     | 20,000,000        | 20,000,000              | 330,000          | 330,000                | ug/L  | < 50 U                                     | < 50 U                                     |
| Methyl tert butyl ether (MTBE)*                      | 40                            | 40                               | 7,100                                     | 690                                                    | 47,000,000        | 47,000,000              | 7,400            | 17,000                 | ug/L  | < 5 U                                      | < 5 U                                      |
| Styrene                                              | 100                           | 100                              | 80                                        | --                                                     | 170,000           | 310,000                 | 960              | 2,300                  | ug/L  | < 1 U                                      | < 1 U                                      |
| 1,1,2,2-Tetrachloroethane                            | 8.5                           | 35                               | 78                                        | --                                                     | 12,000            | 77,000                  | 71               | 170                    | ug/L  | < 1 U                                      | < 1 U                                      |
| Tetrachloroethene                                    | 5                             | 5                                | 60                                        | --                                                     | 25,000            | 170,000                 | 130              | 130                    | ug/L  | < 1 U                                      | < 1 U                                      |
| Toluene*                                             | 790                           | 790                              | 270                                       | 1,000                                                  | 530,000           | 530,000                 | 41,000           | 59,000                 | ug/L  | < 1 U                                      | < 1 U                                      |
| 1,2,4-Trichlorobenzene                               | 70                            | 70                               | 99                                        | --                                                     | 300,000           | 300,000                 | 110              | 160                    | ug/L  | < 5 U                                      | < 5 U                                      |
| 1,1,1-Trichloroethane                                | 200                           | 200                              | 89                                        | --                                                     | 660,000           | 1,300,000               | 14,000           | 19,000                 | ug/L  | < 1 U                                      | < 1 U                                      |
| 1,1,2-Trichloroethane                                | 5                             | 5                                | 330                                       | --                                                     | 17,000            | 110,000                 | 14               | 20                     | ug/L  | < 1 U                                      | < 1 U                                      |
| Trichloroethene                                      | 5                             | 5                                | 200                                       | --                                                     | 2,200             | 4,900                   | 10               | 10                     | ug/L  | < 1 U                                      | < 1 U                                      |
| Trifluorotrichloroethane (Freon 113)                 | 170,000                       | 170,000                          | 32                                        | --                                                     | 170,000           | 170,000                 | 2,700            | 26,000                 | ug/L  | < 1 U                                      | < 1 U                                      |
| Vinyl chloride                                       | 2                             | 2                                | 13                                        | --                                                     | 1,100             | 13,000                  | 2.1              | 18                     | ug/L  | < 1 U                                      | < 1 U                                      |
| m&p-Xylene                                           | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 2 U                                      | < 2 U                                      |
| o-Xylene                                             | NA                            | NA                               | NA                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U                                      |
| Total Xylenes*                                       | 280                           | 280                              | 49                                        | 10,000                                                 | 190,000           | 190,000                 | 2,000            | 3,000                  | ug/L  | < 2 U                                      | < 2 U                                      |

See Notes on last page.

Table 3  
Summary of Groundwater Analytical Results - Non-Fiero  
2022 Annual Groundwater Monitoring Report  
RACER Trust Pontiac North Campus

| Location ID:<br>Date Collected:<br>Sample Name: | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVIIC | Nonresidential<br>GVIIC | Residential VIAP | Nonresidential<br>VIAP | Units | TW-MD-06<br>09/27/22<br>TW-MD-06_GW-092722 | TW-MD-07<br>09/27/22<br>TW-MD-07_GW-092722 |
|-------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|--------------------------------------------|--------------------------------------------|
| Volatile Organics-SIM                           |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |
| 1,4-Dioxane                                     | 7.2                           | 350                              | 280                                       | --                                                     | --                | --                      | 56,000           | 130,000                | ug/L  | NA                                         | 1                                          |
| Inorganics                                      |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |
| Antimony                                        | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                      | < 5 U                                      |
| Arsenic                                         | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 8                                          | 3                                          |
| Barium                                          | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | 198                                        | 188                                        |
| Beryllium                                       | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 1 U                                      | < 1 U                                      |
| Cadmium                                         | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.5 U                                    | < 0.5 U                                    |
| Calcium                                         | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 107,000                                    | 118,000                                    |
| Chromium                                        | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                      | < 5 U                                      |
| Cobalt                                          | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                      | < 5 U                                      |
| Copper*                                         | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | < 5 U                                      | < 5 U                                      |
| Iron*                                           | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | 11,300                                     | 16,800                                     |
| Lead                                            | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 3 U                                      | < 3 U                                      |
| Magnesium                                       | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 34,500                                     | 32,500                                     |
| Manganese*                                      | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | 437                                        | 433                                        |
| Mercury                                         | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | < 0.2 U                                    | < 0.2 U                                    |
| Nickel                                          | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                      | < 5 U                                      |
| Selenium                                        | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                      | < 5 U                                      |
| Silver                                          | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 0.5 U                                    | < 0.5 U                                    |
| Thallium                                        | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 2 U                                      | < 2 U                                      |
| Vanadium                                        | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                      | < 5 U                                      |
| Zinc*                                           | 2,400                         | 5,000                            | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | < 5 U                                      | < 5 U                                      |
| Inorganics-Filtered                             |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |
| Antimony (dissolved)                            | 6                             | 6                                | 130                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Arsenic (dissolved)                             | 10                            | 10                               | 10                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Barium (dissolved)                              | 2,000                         | 2,000                            | 670                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Beryllium (dissolved)                           | 4                             | 4                                | 6.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Cadmium (dissolved)                             | 5                             | 5                                | 2.5                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Calcium (dissolved)                             | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Chromium Total (dissolved)                      | 100                           | 100                              | 11                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Cobalt (dissolved)                              | 40                            | 100                              | 100                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Copper (dissolved)*                             | 1,000                         | 1,000                            | 13                                        | 4,000                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Iron (dissolved)                                | 300                           | 300                              | --                                        | 5,600                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Lead (dissolved)                                | 4                             | 4                                | 14                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Magnesium (dissolved)                           | 400,000                       | 1,100,000                        | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Manganese (dissolved)*                          | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Mercury (dissolved)                             | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | NA                                         | NA                                         |
| Nickel (dissolved)                              | 100                           | 100                              | 73                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Selenium (dissolved)                            | 50                            | 50                               | 5                                         | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Silver (dissolved)                              | 34                            | 98                               | 0.2                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Thallium (dissolved)                            | 2                             | 2                                | 3.7                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Vanadium (dissolved)                            | 4.5                           | 62                               | 27                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Zinc (dissolved)*                               | 2,400                         | 5000                             | 170                                       | --                                                     | --                | --                      | --               | --                     | ug/L  | NA                                         | NA                                         |
| Miscellaneous                                   |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                            |                                            |
| Alkalinity, total (as CaCO3)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 308,000                                    | 318,000                                    |
| Hardness                                        | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 268,000                                    | 309,000                                    |
| Total dissolved solids (TDS)                    | 500,000                       | 500,000                          | 500,000                                   | --                                                     | --                | --                      | --               | --                     | ug/L  | 1,260,000                                  | 1,220,000                                  |
| Total suspended solids (TSS)                    | --                            | --                               | --                                        | --                                                     | --                | --                      | --               | --                     | ug/L  | 20,000                                     | 22,000                                     |



**Notes:**

- 1) Criteria listed are from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Clean Up Criteria Requirements Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, December 21, 2020.
- 2) Residential and Nonresidential Volatilization to Indoor Air Pathway Screening Levels (Groundwater Not in Contact) are from the DEQ Guidance Document for the Vapor Intrusion Pathway, Appendix C - Tables 1 and 2, September 4, 2020.
- 3) Groundwater Surface Water Interface Criteria listed for barium, beryllium, cadmium, chromium, copper, lead, manganese, nickel and zinc are calculated based on a hardness of 150 mg/L-CaCO<sub>3</sub> for southern Lower Peninsula protected as a drinking water source.
- 4) Yellow highlighted values denotes exceedance and/or equal to Michigan Residential Drinking Water.
- 5) Orange highlighted values denotes exceedance and/or equal to Non-Residential Drinking Water.
- 6) Grey shaded values denotes exceedance and/or equal to Michigan Groundwater Surface Water Interface.
- 7) Bold values denotes exceedance and/or equal to Non-Residential Health Based Drinking Water Value.
- 8) Values in italics denotes exceedance and/or equal to Residential Groundwater Volatilization to Indoor Air Pathway Screening Levels (Groundwater Not in Contact).
- 9) Values in red type denotes exceedance and/or equal to Non-Residential Groundwater Volatilization to Indoor Air Pathway Screening Levels (Groundwater Not in Contact).
- 10) Underlined values denotes exceedance and/or equal to Residential Groundwater Volatilization to Indoor Air Inhalation criteria.
- 11) Double underlined values denotes exceedance and/or equal to Non-Residential Groundwater Volatilization to Indoor Air Inhalation criteria.
- 12) Duplicate analyses are presented in brackets.
- 13) Constituents flagged with an (\*) symbol have Residential and Non-Residential Drinking Water criteria which represent aesthetic drinking water values. The Non-Residential Health Based Drinking Water Value associated with these constituents will be utilized for Site comparison as is more applicable.
- 14) Samples were analyzed by EPA Method E200.8, E245.1, E608.3, SM2320B, SM2340C, SM2540C, SM2540D, SW3015A, SW5030C/8260C, and SW8260B-SIM.

**Abbreviations:**

|        |                                                                                                      |
|--------|------------------------------------------------------------------------------------------------------|
| ug/L   | Micrograms per liter                                                                                 |
| <      | Not detected above the laboratory reporting limit                                                    |
| GVIIIC | Groundwater Volatilization to Indoor Air Inhalation Criteria                                         |
| NA     | Not Analyzed                                                                                         |
| NTU    | Nephelometric Turbidity Unit                                                                         |
| PCBs   | Polychlorinated biphenyls                                                                            |
| SIM    | Selected ion monitoring                                                                              |
| SU     | Standard Unit                                                                                        |
| U      | Compound was analyzed for but not detected. The associated value is the compound quantitation limit. |
| VIAP   | Volatilization to Indoor Air Pathway                                                                 |

Table 4  
Summary of Groundwater Analytical Results - Fiero  
2022 Annual Groundwater Monitoring Report  
RACER Trust Pontiac North Campus



| Location ID:<br>Date Collected:<br>Sample Name: | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Res Fiero SSVIAC<br>SOG | Res Fiero SSVIAC<br>BASE | NR Fiero SSVIAC<br><50k SOG | NR Fiero SSVIAC<br><50k BASE | NR Fiero SSVIAC<br>>50k SOG | NR Fiero SSVIAC<br>>50k BASE | Units | MW-02-17<br>09/22/22<br>MW-02-17_GW-092222 | MW-05-18<br>09/20/22<br>MW-05-18_GW-092022 | MWF12-01R<br>09/22/22<br>MWF12-01R_GW-092222 | MWF12-02R<br>09/21/22<br>MWF12-02R_GW-092122 | MWF16-06<br>09/22/22<br>MWF16-06_GW-092222 |
|-------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------------|--------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|-------|--------------------------------------------|--------------------------------------------|----------------------------------------------|----------------------------------------------|--------------------------------------------|
| Field Parameters                                |                               |                                  |                                           |                                                        |                         |                          |                             |                              |                             |                              |       |                                            |                                            |                                              |                                              |                                            |
| pH*                                             | 6.5-8.5                       | 6.5-8.5                          | 6.5-9.0                                   | --                                                     | --                      | --                       | --                          | --                           | --                          | --                           | SU    | 7.10                                       | 7.37                                       | 6.90                                         | 6.98                                         | 7.52                                       |
| Volatile Organics                               |                               |                                  |                                           |                                                        |                         |                          |                             |                              |                             |                              |       |                                            |                                            |                                              |                                              |                                            |
| Carbon tetrachloride                            | 5                             | 5                                | 38                                        | --                                                     | 14                      | 7.2                      | 440                         | 190                          | 650                         | 290                          | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                        | < 1 U [< 1 U]                                | 9                                          |
| Chloroform (Trichloromethane)                   | 80                            | 80                               | 350                                       | --                                                     | 19                      | 10                       | 610                         | 270                          | 910                         | 410                          | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                        | < 1 U [< 1 U]                                | 15                                         |
| 1,1-Dichloroethane                              | 880                           | 2,500                            | 740                                       | --                                                     | 160                     | 88                       | 5,300                       | 2,400                        | 8,000                       | 3,600                        | ug/L  | 2                                          | 5                                          | 5                                            | < 1 U [< 1 U]                                | 95                                         |
| 1,1-Dichloroethene                              | 7                             | 7                                | 130                                       | --                                                     | 410                     | 220                      | 8,300                       | 3,800                        | 13,000                      | 5,700                        | ug/L  | < 1 U                                      | < 1 U                                      | 1                                            | < 1 U [< 1 U]                                | 10                                         |
| cis-1,2-Dichloroethene                          | 70                            | 70                               | 620                                       | --                                                     | 110                     | 62                       | 2,300                       | 1,100                        | 3,500                       | 1,600                        | ug/L  | < 1 U                                      | 11                                         | < 1 U                                        | < 1 U [< 1 U]                                | 29                                         |
| Tetrachloroethene                               | 5                             | 5                                | 60                                        | --                                                     | 250                     | 130                      | 3,400                       | 1,500                        | 5,000                       | 2,200                        | ug/L  | 8                                          | < 1 U                                      | < 1 U                                        | < 1 U [< 1 U]                                | 63                                         |
| 1,1,1-Trichloroethane                           | 200                           | 200                              | 89                                        | --                                                     | 22,000                  | 11,000                   | 210,000                     | 92,000                       | 310,000                     | 140,000                      | ug/L  | 6                                          | 7                                          | 47                                           | < 1 U [< 1 U]                                | 135                                        |
| Trichloroethene                                 | 5                             | 5                                | 200                                       | --                                                     | 15                      | 8.1                      | 210                         | 93                           | 310                         | 140                          | ug/L  | 2                                          | 1                                          | < 1 U                                        | < 1 U [< 1 U]                                | 9                                          |
| Vinyl chloride                                  | 2                             | 2                                | 13                                        | --                                                     | 2.2                     | 1.2                      | 260                         | 120                          | 390                         | 180                          | ug/L  | < 1 U                                      | < 1 U                                      | < 1 U                                        | < 1 U [< 1 U]                                | < 1 U                                      |
| Volatile Organics-SIM                           |                               |                                  |                                           |                                                        |                         |                          |                             |                              |                             |                              |       |                                            |                                            |                                              |                                              |                                            |
| 1,4-Dioxane                                     | 7.2                           | 350                              | 280                                       | --                                                     | 43,000                  | 22,000                   | 1,500,000                   | 670,000                      | 2,300,000                   | 1,000,000                    | ug/L  | 5                                          | < 1 U                                      | 40                                           | NA                                           | 8                                          |
| Inorganics                                      |                               |                                  |                                           |                                                        |                         |                          |                             |                              |                             |                              |       |                                            |                                            |                                              |                                              |                                            |
| Manganese*                                      | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                      | --                       | --                          | --                           | --                          | --                           | ug/L  | NA                                         | NA                                         | 801                                          | 256 [252]                                    | NA                                         |
| Inorganics-Filtered                             |                               |                                  |                                           |                                                        |                         |                          |                             |                              |                             |                              |       |                                            |                                            |                                              |                                              |                                            |
| Manganese (dissolved)*                          | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                      | --                       | --                          | --                           | --                          | --                           | ug/L  | NA                                         | NA                                         | 698                                          | NA                                           | NA                                         |

Table 4  
Summary of Groundwater Analytical Results - Fiero  
2022 Annual Groundwater Monitoring Report  
RACER Trust Pontiac North Campus



| Location ID:<br>Date Collected:<br>Sample Name: | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Res Fiero SSVIAC<br>SOG | Res Fiero SSVIAC<br>BASE | NR Fiero SSVIAC<br><50k SOG | NR Fiero SSVIAC<br><50k BASE | NR Fiero SSVIAC<br>>50k SOG | NR Fiero SSVIAC<br>>50k BASE | MWF16-23<br>09/20/22<br>MWF16-23_GW-092022 | MWF16-25<br>09/23/22<br>MWF16-25_GW092322 | MWF7-02<br>09/20/22<br>MWF7-02_GW-092022 | MWF8-01<br>09/22/22<br>MWF8-01_GW-092222 |
|-------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------------|--------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|--------------------------------------------|-------------------------------------------|------------------------------------------|------------------------------------------|
| Field Parameters                                |                               |                                  |                                           |                                                        |                         |                          |                             |                              |                             |                              |                                            |                                           |                                          |                                          |
| pH*                                             | 6.5-8.5                       | 6.5-8.5                          | 6.5-9.0                                   | --                                                     | --                      | --                       | --                          | --                           | --                          | --                           | 7.25                                       | 7.24                                      | 7.47                                     | 6.80                                     |
| Volatile Organics                               |                               |                                  |                                           |                                                        |                         |                          |                             |                              |                             |                              |                                            |                                           |                                          |                                          |
| Carbon tetrachloride                            | 5                             | 5                                | 38                                        | --                                                     | 14                      | 7.2                      | 440                         | 190                          | 650                         | 290                          | < 1 U [< 1 U]                              | < 1 U                                     | < 1 U                                    | < 1 U [< 1 U]                            |
| Chloroform (Trichloromethane)                   | 80                            | 80                               | 350                                       | --                                                     | 19                      | 10                       | 610                         | 270                          | 910                         | 410                          | < 1 U [< 1 U]                              | 3                                         | 1                                        | 1 [< 1 U]                                |
| 1,1-Dichloroethane                              | 880                           | 2,500                            | 740                                       | --                                                     | 160                     | 88                       | 5,300                       | 2,400                        | 8,000                       | 3,600                        | 7 [7]                                      | 4                                         | 12                                       | < 1 U [< 1 U]                            |
| 1,1-Dichloroethene                              | 7                             | 7                                | 130                                       | --                                                     | 410                     | 220                      | 8,300                       | 3,800                        | 13,000                      | 5,700                        | < 1 U [< 1 U]                              | < 1 U                                     | 15                                       | < 1 U [< 1 U]                            |
| cis-1,2-Dichloroethene                          | 70                            | 70                               | 620                                       | --                                                     | 110                     | 62                       | 2,300                       | 1,100                        | 3,500                       | 1,600                        | 12 [12]                                    | 38                                        | 2                                        | < 1 U [< 1 U]                            |
| Tetrachloroethene                               | 5                             | 5                                | 60                                        | --                                                     | 250                     | 130                      | 3,400                       | 1,500                        | 5,000                       | 2,200                        | < 1 U [< 1 U]                              | < 1 U                                     | 115                                      | < 1 U [< 1 U]                            |
| 1,1,1-Trichloroethane                           | 200                           | 200                              | 89                                        | --                                                     | 22,000                  | 11,000                   | 210,000                     | 92,000                       | 310,000                     | 140,000                      | 13 [13]                                    | 3                                         | 115                                      | < 1 U [< 1 U]                            |
| Trichloroethene                                 | 5                             | 5                                | 200                                       | --                                                     | 15                      | 8.1                      | 210                         | 93                           | 310                         | 140                          | 17 [18]                                    | < 1 U                                     | 5                                        | < 1 U [< 1 U]                            |
| Vinyl chloride                                  | 2                             | 2                                | 13                                        | --                                                     | 2.2                     | 1.2                      | 260                         | 120                          | 390                         | 180                          | < 1 U [< 1 U]                              | < 1 U                                     | < 1 U                                    | < 1 U [< 1 U]                            |
| Volatile Organics-SIM                           |                               |                                  |                                           |                                                        |                         |                          |                             |                              |                             |                              |                                            |                                           |                                          |                                          |
| 1,4-Dioxane                                     | 7.2                           | 350                              | 280                                       | --                                                     | 43,000                  | 22,000                   | 1,500,000                   | 670,000                      | 2,300,000                   | 1,000,000                    | 2 [1]                                      | < 1 U                                     | 201 E                                    | NA                                       |
| Inorganics                                      |                               |                                  |                                           |                                                        |                         |                          |                             |                              |                             |                              |                                            |                                           |                                          |                                          |
| Manganese*                                      | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                      | --                       | --                          | --                           | --                          | --                           | NA                                         | NA                                        | NA                                       | NA                                       |
| Inorganics-Filtered                             |                               |                                  |                                           |                                                        |                         |                          |                             |                              |                             |                              |                                            |                                           |                                          |                                          |
| Manganese (dissolved)*                          | 50                            | 50                               | 1,300                                     | 2,500                                                  | --                      | --                       | --                          | --                           | --                          | --                           | NA                                         | NA                                        | NA                                       | NA                                       |

**Notes:**

- 1) Criteria listed are from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Clean Up Criteria Requirements Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, December 21, 2020.
- 2) Department of Environment, Great Lakes and Energy (EGLE) developed Site-Specific Volatilization to Indoor Air Criteria for the Former Fiero Assembly, April 21, 2020
- 3) Groundwater Surface Water Interface Criteria listed for barium, beryllium, cadmium, chromium, copper, lead, manganese, nickel and zinc are calculated based on a hardness of 150 mg/L-CaCO<sub>3</sub> for southern Lower Peninsula protected as a drinking water source.
- 4) Yellow highlighted values denotes exceedance and/or equal to Michigan Residential Drinking Water.
- 5) Orange highlighted values denotes exceedance and/or equal to Non-Residential Drinking Water.
- 6) Grey shaded values denotes exceedance and/or equal to Michigan Groundwater Surface Water Interface.
- 7) Bold values denotes exceedance and/or equal to Non-Residential Health Based Drinking Water Value.
- 8) Values in italics denotes exceedance and/or equal to Residential Site-Specific Volatilization to Indoor Air criteria for basement and/or slab-on-grade.
- 9) Values in red denotes exceedance and/or equal to Nonresidential Site-Specific Volatilization to Indoor Air criteria for basement and/or slab-on-grade.
- 10) Duplicate analyses are presented in brackets.
- 11) Constituents flagged with an (\*) symbol have Residential and Non-Residential Drinking Water criteria which represent aesthetic drinking water values. The Non-Residential Health Based Drinking Water Value associated with these constituents will be utilized for Site comparison as is more applicable.
- 12) Samples were analyzed by EPA Method E200.8, E245.1, SW3015A, SW5030C/8260C, and SW8260B-SIM.

**Abbreviations:**

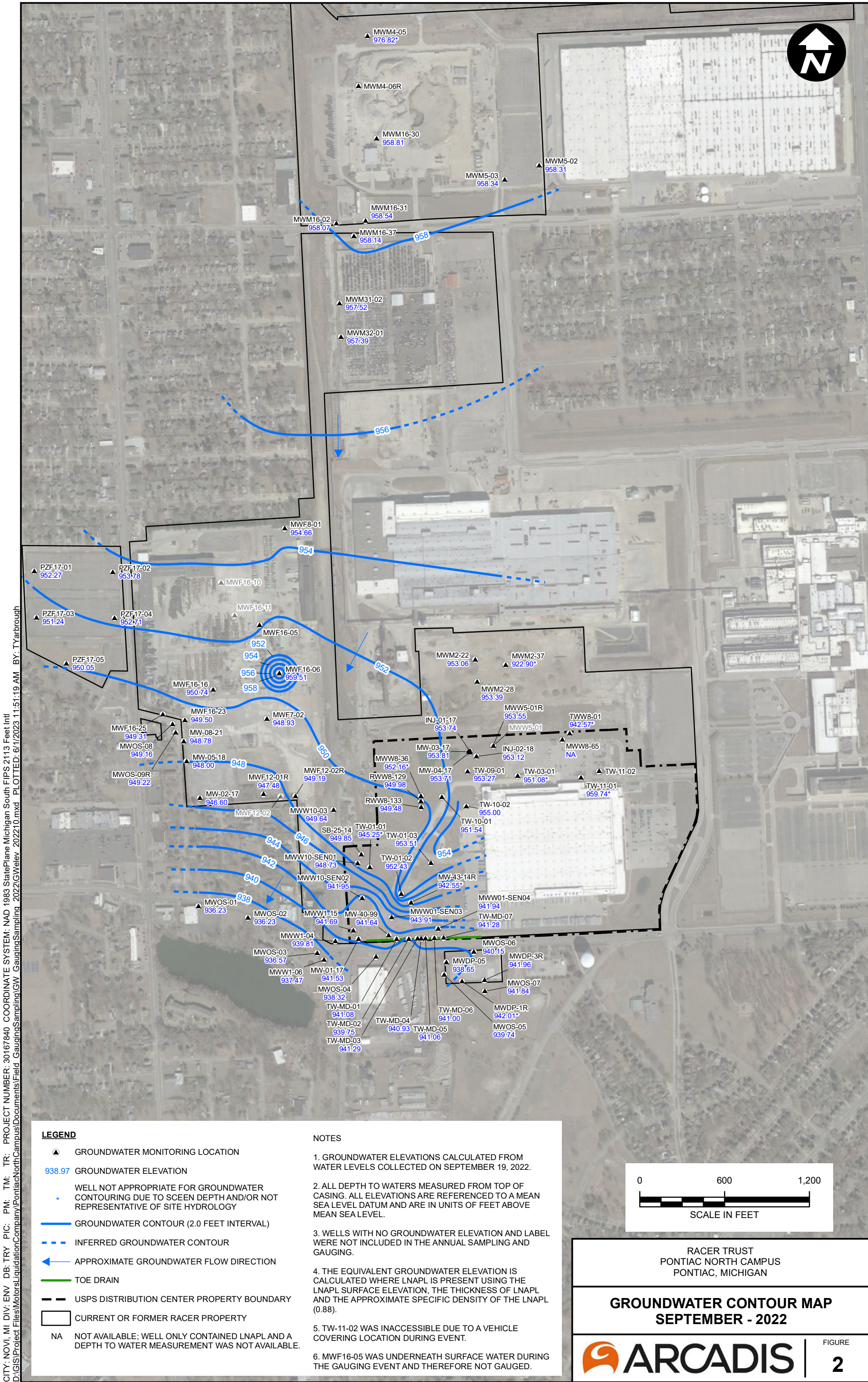
|        |                                                                                                      |
|--------|------------------------------------------------------------------------------------------------------|
| ug/L   | Micrograms per liter.                                                                                |
| <      | Not detected above the laboratory reporting limit                                                    |
| >/<50k | Greater than 50,000 or less than 50,000                                                              |
| BASE   | Basement                                                                                             |
| E      | Concentration exceeds calibration range                                                              |
| NTU    | Nephelometric Turbidity Unit                                                                         |
| Res    | Residential                                                                                          |
| SIM    | Selected ion monitoring                                                                              |
| SOG    | Slab on Grade                                                                                        |
| SSVIAC | Site-Specific Volatilization to Indoor Air Criteria                                                  |
| SU     | Standard Unit                                                                                        |
| U      | Compound was analyzed for but not detected. The associated value is the compound quantitation limit. |
| NA     | Not analyzed                                                                                         |

# Figures











| Date                   | 10/10/2019 | 10/15/2020 | 10/12/2021 | 9/29/2022        |
|------------------------|------------|------------|------------|------------------|
| Field Parameters       |            |            |            |                  |
| pH                     | 6.86       | 6.83       | 6.9        | 6.83             |
| VOCs                   |            |            |            |                  |
| Carbon Tetrachloride   | < 1 U      | < 1 U      | < 1 U      | < 1 U [ $< 1$ U] |
| Chloroform             | < 1 U      | < 1 U      | < 1 U      | < 1 U [ $< 1$ U] |
| 1,1-Dichloroethane     | < 1 U      | < 1 U      | < 1 U      | < 1 U [ $< 1$ U] |
| 1,1-Dichloroethene     | < 1 U      | < 1 U      | < 1 U      | < 1 U [ $< 1$ U] |
| cis-1,2-Dichloroethene | < 1 U      | < 1 U      | < 1 U      | < 1 U [ $< 1$ U] |
| Tetrachloroethene      | < 1 U      | < 1 U      | < 1 U      | < 1 U [ $< 1$ U] |
| 1,1,1-Trichloroethane  | 6          | 6          | 6          | 6 [6]            |
| Trichloroethene        | 17         | 14         | 12         | 11 [12]          |
| Vinyl Chloride         | < 1 U      | < 1 U      | < 1 U      | < 1 U [ $< 1$ U] |

| Date                   | 10/7/2019 | 10/15/2020 | 10/18/2021 | 9/22/2022 |
|------------------------|-----------|------------|------------|-----------|
| Field Parameters       |           |            |            |           |
| pH                     | 7.65      | 7.41       | 7.78       | 7.52      |
| VOCs                   |           |            |            |           |
| Carbon Tetrachloride   | 13        | 13 r       | 10         | 9         |
| Chloroform             | 34        | 34 r       | 18         | 15        |
| 1,1-Dichloroethane     | 67        | 212 E      | 19         | 95        |
| 1,1-Dichloroethene     | 12        | 23 r       | 4          | 10        |
| cis-1,2-Dichloroethene | 17        | 82 r       | 4          | 29        |
| 1,4-Dioxane            | 29        | 20         | 5          | 8         |
| Tetrachloroethene      | 76        | 127 r      | 56         | 63        |
| 1,1,1-Trichloroethane  | 164       | 201 E      | 106        | 135       |
| Trichloroethene        | 12        | 24 r       | 5          | 9         |
| Vinyl Chloride         | < 1 U     | < 1 U r    | < 1 U      | < 1 U     |

| Date                   | 10/7/2019 | 10/13/2020 | 10/18/2021 | 9/20/2022 |
|------------------------|-----------|------------|------------|-----------|
| Field Parameters       |           |            |            |           |
| pH                     | 7.12      | 7.01       | 7.15       | 7.47      |
| VOCs                   |           |            |            |           |
| Carbon Tetrachloride   | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| Chloroform             | < 1 U     | 1          | < 1 U      | < 1 U     |
| 1,1-Dichloroethane     | 38        | 24         | 29         | 12        |
| 1,1-Dichloroethene     | 10        | 15         | 11         | 15        |
| cis-1,2-Dichloroethene | 3         | 3          | 3          | 2         |
| 1,4-Dioxane            | 300 Y     | 530 Y      | 141        | 201 E     |
| Tetrachloroethene      | 54        | 70         | 84         | 115       |
| 1,1,1-Trichloroethane  | 60        | 77         | 95         | 115       |
| Trichloroethene        | 3         | 3          | 4          | 5         |
| Vinyl Chloride         | < 1 U     | < 1 U      | < 1 U      | < 1 U     |

| Date                   | 10/7/2019 | 10/15/2020 | 10/13/2021 | 9/20/2022        |
|------------------------|-----------|------------|------------|------------------|
| Field Parameters       |           |            |            |                  |
| pH                     | 7.04      | 6.96       | 6.88       | 7.25             |
| VOCs                   |           |            |            |                  |
| Carbon Tetrachloride   | < 1 U     | < 1 U      | < 1 U      | < 1 U [ $< 1$ U] |
| Chloroform             | < 1 U     | 1          | < 1 U      | < 1 U [ $< 1$ U] |
| 1,1-Dichloroethane     | 6         | 6          | 4          | 7 [7]            |
| 1,1-Dichloroethene     | < 1 U     | < 1 U      | < 1 U      | < 1 U [ $< 1$ U] |
| cis-1,2-Dichloroethene | 21        | 10         | 3          | 12 [12]          |
| 1,4-Dioxane            | < 1 U     | 1          | 2          | 2 [1]            |
| Tetrachloroethene      | < 1 U     | < 1 U      | < 1 U      | < 1 U [ $< 1$ U] |
| 1,1,1-Trichloroethane  | 9         | 10         | 11         | 13 [13]          |
| Trichloroethene        | 20        | 21         | 18         | 17 [18]          |
| Vinyl Chloride         | < 1 U     | < 1 U      | < 1 U      | < 1 U [ $< 1$ U] |

| Date                   | 10/13/2020 | 10/18/2021       | 9/22/2022 |
|------------------------|------------|------------------|-----------|
| Field Parameters       |            |                  |           |
| pH                     | 7.03       | 6.97             | 6.9       |
| VOCs                   |            |                  |           |
| Carbon Tetrachloride   | NA         | < 1 U [ $< 1$ U] | < 1 U     |
| Chloroform             | NA         | < 1 U [ $< 1$ U] | < 1 U     |
| 1,1-Dichloroethane     | NA         | 5 [5]            | 5         |
| 1,1-Dichloroethene     | NA         | < 1 U [ $< 1$ U] | < 1 U     |
| cis-1,2-Dichloroethene | NA         | < 1 U [ $< 1$ U] | < 1 U     |
| 1,4-Dioxane            | 107        | 83 [86]          | 40        |
| Tetrachloroethene      | NA         | < 1 U [ $< 1$ U] | < 1 U     |
| 1,1,1-Trichloroethane  | NA         | 40 [41]          | 47        |
| Trichloroethene        | NA         | < 1 U [ $< 1$ U] | < 1 U     |
| Vinyl Chloride         | NA         | < 1 U [ $< 1$ U] | < 1 U     |

| Date                   | 10/7/2019 | 10/13/2020 | 10/19/2021 | 9/22/2022 |
|------------------------|-----------|------------|------------|-----------|
| Field Parameters       |           |            |            |           |
| pH                     | 7.09      | 7.19       | 7.2        | 7.1       |
| VOCs                   |           |            |            |           |
| Carbon Tetrachloride   | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| Chloroform             | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| 1,1-Dichloroethane     | 2         | < 1 U      | 1          | 2         |
| 1,1-Dichloroethene     | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| cis-1,2-Dichloroethene | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| 1,4-Dioxane            | 29        | 30         | 5          | 5         |
| Tetrachloroethene      | 10        | 3          | 5          | 8         |
| 1,1,1-Trichloroethane  | 7         | 6          | 2          | 6         |
| Trichloroethene        | 4         | 2          | 7          | 2         |
| Vinyl Chloride         | < 1 U     | < 1 U      | < 1 U      | < 1 U     |

| Date                   | 10/8/2019 | 10/16/2020 | 10/12/2021 |
|------------------------|-----------|------------|------------|
| Field Parameters       |           |            |            |
| pH                     | 6.96      | 6.99       | 6.90       |
| VOCs                   |           |            |            |
| Carbon Tetrachloride   | < 1 U     | < 1 U      | < 1 U      |
| Chloroform             | < 1 U     | < 1 U      | < 1 U      |
| 1,1-Dichloroethane     | < 1 U     | < 1 U      | < 1 U      |
| 1,1-Dichloroethene     | < 1 U     | < 1 U      | < 1 U      |
| cis-1,2-Dichloroethene | < 1 U     | < 1 U      | < 1 U      |
| 1,4-Dioxane            | 9         | NA         | NA         |
| Tetrachloroethene      | < 1 U     | < 1 U      | < 1 U      |
| 1,1,1-Trichloroethane  | < 1 U     | < 1 U      | < 1 U      |
| Trichloroethene        | < 1 U     | < 1 U      | < 1 U      |
| Vinyl Chloride         | < 1 U     | < 1 U      | < 1 U      |

| Date                   | 10/7/2019 | 10/16/2020 | 10/13/2021 | 9/29/2022 |
|------------------------|-----------|------------|------------|-----------|
| Field Parameters       |           |            |            |           |
| pH                     | 11.31     | 11.55      | 9.61       | 10.84     |
| VOCs                   |           |            |            |           |
| Carbon Tetrachloride   | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| Chloroform             | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| 1,1-Dichloroethane     | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| 1,1-Dichloroethene     | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| cis-1,2-Dichloroethene | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| 1,4-Dioxane            | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| Tetrachloroethene      | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| 1,1,1-Trichloroethane  | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| Trichloroethene        | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| Vinyl Chloride         | < 1 U     | < 1 U      | < 1 U      | < 1 U     |

| Date                   | 10/10/2019       | 10/16/2020 | 10/12/2021 | 9/28/2022 |
|------------------------|------------------|------------|------------|-----------|
| Field Parameters       |                  |            |            |           |
| pH                     | 7.27             | 7.28       | 7.22       | 7.10      |
| VOCs                   |                  |            |            |           |
| Carbon Tetrachloride   | < 1 U [ $< 1$ U] | < 1 U      | < 1 U      | < 1 U     |
| Chloroform             | < 1 U [ $< 1$ U] | < 1 U      | < 1 U      | < 1 U     |
| 1,1-Dichloroethane     | < 1 U [ $< 1$ U] | < 1 U      | < 1 U      | < 1 U     |
| 1,1-Dichloroethene     | < 1 U [ $< 1$ U] | < 1 U      | < 1 U      | < 1 U     |
| cis-1,2-Dichloroethene | < 1 U [ $< 1$ U] | < 1 U      | < 1 U      | < 1 U     |
| Tetrachloroethene      | < 1 U [ $< 1$ U] | < 1 U      | < 1 U      | < 1 U     |
| 1,1,1-Trichloroethane  | < 1 U [ $< 1$ U] | < 1 U      | < 1 U      | < 1 U     |
| Trichloroethene        | < 1 U [ $< 1$ U] | < 1 U      | < 1 U      | < 1 U     |
| Vinyl Chloride         | 2 [2]            | 2          | < 1 U      | 2         |

| Date                   | 10/10/2019 | 10/16/2020       | 10/13/2021       | 9/29/2022        |
|------------------------|------------|------------------|------------------|------------------|
| Field Parameters       |            |                  |                  |                  |
| pH                     | 7.17       | 7.29             | 7.26             | 7.15             |
| VOCs                   |            |                  |                  |                  |
| Carbon Tetrachloride   | < 1 U      | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| Chloroform             | < 1 U      | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| 1,1-Dichloroethane     | < 1 U      | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| 1,1-Dichloroethene     | < 1 U      | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| cis-1,2-Dichloroethene | < 1 U      | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| Tetrachloroethene      | < 1 U      | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| 1,1,1-Trichloroethane  | < 1 U      | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| Trichloroethene        | < 1 U      | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| Vinyl Chloride         | 2          | 1 [1]            | 2 [2]            | 2 [3]            |

| Date                   | 10/13/2021       | 9/28/2022 |
|------------------------|------------------|-----------|
| Field Parameters       |                  |           |
| pH                     | 6.88             | 6.84      |
| VOCs                   |                  |           |
| Carbon Tetrachloride   | < 1 U [ $< 1$ U] | < 1 U     |
| Chloroform             | < 1 U [ $< 1$ U] | < 1 U     |
| 1,1-Dichloroethane     | 18 [28]          | 27        |
| 1,1-Dichloroethene     | < 1 U [ $< 1$ U] | < 1 U     |
| cis-1,2-Dichloroethene | 5 [9]            | 14        |
| Tetrachloroethene      | 27 [39]          | 42        |
| 1,1,1-Trichloroethane  | 2 [2]            | 5         |
| Trichloroethene        | 5 [7]            | 15        |
| Vinyl Chloride         | 3 [5]            | 18        |

| Date             | 10/9/2019 | 10/13/2020 | 12/14/2021 | 9/27/2022 |
|------------------|-----------|------------|------------|-----------|
| Field Parameters |           |            |            |           |
| pH               | 6.6       | 6.72       | 6.61       | 6.57      |
| VOCs             |           |            |            |           |
| 1,4-Dioxane      | 90 [120]  | 30         | 93         | 29        |

| Date                   | 10/10/2019 | 10/15/2020 | 10/12/2021 | 9/28/2022 |
|------------------------|------------|------------|------------|-----------|
| Field Parameters       |            |            |            |           |
| pH                     | 7.08       | 7.22       | 7.23       | 7.11      |
| VOCs                   |            |            |            |           |
| Carbon Tetrachloride   | < 1 U      | < 1 U      | < 1 U      | < 1 U     |
| Chloroform             | < 1 U      | < 1 U      | < 1 U      | < 1 U     |
| 1,1-Dichloroethane     | < 1 U      | < 1 U      | < 1 U      | < 1 U     |
| 1,1-Dichloroethene     | < 1 U      | < 1 U      | < 1 U      | < 1 U     |
| cis-1,2-Dichloroethene | < 1 U      | < 1 U      | < 1 U      | < 1 U     |
| 1,4-Dioxane            | < 1 U      | 12         | 22         | 8         |
| Tetrachloroethene      | < 1 U      | < 1 U      | < 1 U      | < 1 U     |
| 1,1,1-Trichloroethane  | < 1 U      | < 1 U      | < 1 U      | < 1 U     |
| Trichloroethene        | < 1 U      | < 1 U      | < 1 U      | < 1 U     |
| Vinyl Chloride         | < 1 U      | < 1 U      | < 1 U      | < 1 U     |

| Date                   | 10/9/2019 | 10/15/2020       | 10/15/2021       | 9/27/2022        |
|------------------------|-----------|------------------|------------------|------------------|
| Field Parameters       |           |                  |                  |                  |
| pH                     | 7.02      | 7.38             | 7.04             | 7.01             |
| VOCs                   |           |                  |                  |                  |
| Carbon Tetrachloride   | < 1 U     | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| Chloroform             | < 1 U     | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| 1,1-Dichloroethane     | < 1 U     | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| 1,1-Dichloroethene     | < 1 U     | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| cis-1,2-Dichloroethene | < 1 U     | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| 1,4-Dioxane            | 11        | 6 [9]            | 1 [1]            | 6 [6]            |
| Tetrachloroethene      | < 1 U     | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| 1,1,1-Trichloroethane  | < 1 U     | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| Trichloroethene        | < 1 U     | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |
| Vinyl Chloride         | < 1 U     | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] | < 1 U [ $< 1$ U] |

| Date                   | 10/8/2019 | 10/15/2020 | 10/15/2021 | 9/26/2022 |
|------------------------|-----------|------------|------------|-----------|
| Field Parameters       |           |            |            |           |
| pH                     | 7.34      | 8.27       | 7.62       | 7.84      |
| VOCs                   |           |            |            |           |
| Carbon Tetrachloride   | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| Chloroform             | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| 1,1-Dichloroethane     | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| 1,1-Dichloroethene     | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| cis-1,2-Dichloroethene | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| 1,4-Dioxane            | < 1 U     | 8          | 2          | 4         |
| Tetrachloroethene      | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| 1,1,1-Trichloroethane  | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| Trichloroethene        | < 1 U     | < 1 U      | < 1 U      | < 1 U     |
| Vinyl Chloride         | < 1 U     | < 1 U      | < 1 U      | < 1 U     |

| Date                   | 10/16/2020 | 10/12/2021 | 10/3/2022 |
|------------------------|------------|------------|-----------|
| Field Parameters       |            |            |           |
| pH                     | 6.74       | 6.73       | 6.45      |
| VOCs                   |            |            |           |
| Carbon Tetrachloride   | NA         | NA         | < 1 U     |
| Chloroform             | NA         | NA         | < 1 U     |
| 1,1-Dichloroethane     | NA         | NA         | < 1 U     |
| 1,1-Dichloroethene     | NA         | NA         | < 1 U     |
| cis-1,2-Dichloroethene | NA         | NA         | < 1 U     |
| 1,4-Dioxane            | NA         | NA         | < 1 U     |
| Tetrachloroethene      | NA         | NA         | < 1 U     |
| 1,1,1-Trichloroethane  | NA         | NA         | < 1 U     |
| Trichloroethene        | NA         | NA         | < 1 U     |
| Vinyl Chloride         | NA         | NA         | < 1 U     |



LEGEND

- EXISTING MONITORING WELL
- NO EXCEEDANCES OF APPLICABLE CRITERIA FROM SAMPLING EVENTS BETWEEN 2019-2022
- CURRENT OR FORMER RACER PROPERTY

|                                                 | Units                                                                                                                                                                       | Residential Drinking Water | Nonresidential Drinking Water | Groundwater Surface Water Interface | Residential Volatilization to Indoor Air Pathway Screening Levels | Nonresidential Volatilization to Indoor Air Pathway Screening Levels | Residential Fiero SSVIAC Slab On Grade* | Residential Fiero SSVIAC Basement* |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------|-------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------|------------------------------------|
| Field Parameters                                | SU                                                                                                                                                                          | 6.5-8.5 (E)                | 6.5-8.5 (E)                   | 6.5-9.0                             | --                                                                | --                                                                   | --                                      | --                                 |
| VOCs                                            |                                                                                                                                                                             |                            |                               |                                     |                                                                   |                                                                      |                                         |                                    |
| Carbon Tetrachloride                            | ug/L                                                                                                                                                                        | 5                          | 5                             | 38                                  | 7.7                                                               | 18                                                                   | 14                                      | 2.2                                |
| Chloroform                                      | ug/L                                                                                                                                                                        | 80                         | 80                            | 350                                 | 14                                                                | 32                                                                   | 19                                      | 10                                 |
| 1,1-Dichloroethane                              | ug/L                                                                                                                                                                        | 880                        | 2,880                         | 740                                 | 130                                                               | 300                                                                  | 188                                     | 88                                 |
| 1,1-Dichloroethene                              | ug/L                                                                                                                                                                        | 7                          | 7                             | 130                                 | 330                                                               | 480                                                                  | 410                                     | 220                                |
| cis-1,2-Dichloroethene                          | ug/L                                                                                                                                                                        | 70                         | 70                            | 620                                 | 95                                                                | 140                                                                  | 110                                     | 62                                 |
| 1,4-Dioxane                                     | ug/L                                                                                                                                                                        | 7.2                        | 350                           | 280                                 | 56,000                                                            | 130,000                                                              | 43,000                                  | 22,000                             |
| Tetrachloroethene                               | ug/L                                                                                                                                                                        | 5                          | 5                             | 60                                  | 130                                                               | 130                                                                  | 250                                     | 130                                |
| 1,1,1-Trichloroethane                           | ug/L                                                                                                                                                                        | 200                        | 200                           | 89                                  | 14,000                                                            | 19,000                                                               | 22,000                                  | 11,000                             |
| Trichloroethene                                 | ug/L                                                                                                                                                                        | 5                          | 5                             | 200                                 | 10                                                                | 10                                                                   | 15                                      | 8.1                                |
| Vinyl Chloride                                  | ug/L                                                                                                                                                                        | 2                          | 2                             | 13                                  | 2.1                                                               | 18                                                                   | 2.2                                     | 1.2                                |
| * ONLY APPLIES TO WELLS ON FEMER FIERO PROPERTY |                                                                                                                                                                             |                            |                               |                                     |                                                                   |                                                                      |                                         |                                    |
| E                                               | CRITERION IS THE AESTHETIC DRINKING WATER VALUE, AS REQUIRED BY SECTION 202(a)(6) OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA451. AS AMENDED (NREPA) |                            |                               |                                     |                                                                   |                                                                      |                                         |                                    |



| TW-MD-02               |           |            |            |           |
|------------------------|-----------|------------|------------|-----------|
| Date                   | 10/8/2019 | 10/15/2020 | 10/14/2021 | 9/27/2022 |
| Inorganics             |           |            |            |           |
| Arsenic                | 6         | 5          | 5          | 8         |
| Chromium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Copper                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Iron                   | 11,200    | 13,200     | 11,300     | 9,520     |
| Lead                   | < 3 U     | < 3 U      | < 3 U      | < 3 U     |
| Manganese              | 501       | 854        | 912        | 968       |
| Mercury                | < 0.2 U   | < 0.2 U    | < 0.2 U    | < 0.2 U   |
| Nickel                 | < 5 U     | < 5 U      | 10         | 12        |
| Silver                 | < 0.5 U   | < 0.5 U    | < 0.5 U    | < 0.5 U   |
| Vanadium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Zinc                   | 8         | < 5 U      | 7          | 5         |
| Miscellaneous          |           |            |            |           |
| Total dissolved solids | 728,000   | 774,000    | 1,270,000  | 1,390,000 |

| MWW01-SEN03            |            |            |            |           |
|------------------------|------------|------------|------------|-----------|
| Date                   | 10/10/2019 | 10/15/2020 | 10/12/2021 | 9/28/2022 |
| Inorganics             |            |            |            |           |
| Arsenic                | 2          | 4          | 5          | 5         |
| Chromium               | < 5 U      | < 5 U      | 8          | 6         |
| Copper                 | < 5 U      | < 5 U      | 10         | < 5 U     |
| Iron                   | 1,020      | 9,430      | 11,400     | 17,300    |
| Lead                   | < 3 U      | < 3 U      | < 3 U      | < 3 U     |
| Manganese              | 279        | 155        | 260        | 388       |
| Manganese (dissolved)  | NA         | NA         | 271        | NA        |
| Mercury                | < 0.2 U    | < 0.2 U    | 0.3        | < 0.2 U   |
| Nickel                 | < 5 U      | < 5 U      | 10         | 12        |
| Silver                 | < 0.5 U    | < 0.5 U    | < 0.5 U    | < 0.5 U   |
| Vanadium               | < 5 U      | < 5 U      | < 5 U      | < 5 U     |
| Zinc                   | < 5 U      | < 5 U      | 7          | 5         |
| Miscellaneous          |            |            |            |           |
| Total dissolved solids | 704,000    | 846,000    | 1,010,000  | 1,230,000 |

| TW-MD-01               |           |            |            |           |
|------------------------|-----------|------------|------------|-----------|
| Date                   | 10/8/2019 | 10/15/2020 | 10/14/2021 | 9/26/2022 |
| Inorganics             |           |            |            |           |
| Arsenic                | 2         | 2          | < 2 U      | 2         |
| Chromium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Copper                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Iron                   | 7,050     | 8,480      | 1,260      | 1,250     |
| Lead                   | < 3 U     | < 3 U      | < 3 U      | < 3 U     |
| Manganese              | 867       | 610        | 725        | 498       |
| Mercury                | < 0.2 U   | < 0.2 U    | < 0.2 U    | < 0.2 U   |
| Nickel                 | < 5 U     | 7          | 12         | 10        |
| Silver                 | 0.7       | < 0.5 U    | < 0.5 U    | < 0.5 U   |
| Vanadium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Zinc                   | < 5 U     | < 5 U      | 8          | 9         |
| Miscellaneous          |           |            |            |           |
| Total dissolved solids | 680,000   | 616,000    | 1,300,000  | 1,188,000 |

| MWW10-03              |            |                   |               |                |
|-----------------------|------------|-------------------|---------------|----------------|
| Date                  | 10/10/2019 | 10/14/2020        | 10/15/2021    | 9/27/2022      |
| Inorganics            |            |                   |               |                |
| Arsenic               | NA         | 9 (7)             | NA            | NA             |
| Chromium              | NA         | < 5 U (< 5 U)     | NA            | NA             |
| Copper                | NA         | < 5 U (< 5 U)     | NA            | NA             |
| Lead                  | 11         | < 3 U (< 3 U)     | < 3 U (< 3 U) | 65 (28)        |
| Lead (dissolved)      | NA         | NA                | < 3 U (< 3 U) | NA             |
| Manganese             | 408        | 132 (114)         | 61 (59)       | 11,000 (4,450) |
| Manganese (dissolved) | NA         | NA                | NA            | 84 (77)        |
| Mercury               | NA         | < 0.2 U (< 0.2 U) | NA            | NA             |
| Nickel                | NA         | < 5 U (< 5 U)     | NA            | NA             |
| Silver                | NA         | < 0.5 U (< 0.5 U) | NA            | NA             |
| Vanadium              | NA         | < 5 U (< 5 U)     | NA            | NA             |
| Zinc                  | NA         | < 5 U (< 5 U)     | NA            | NA             |

| MWF12-02   |           |            |           |
|------------|-----------|------------|-----------|
| Date       | 10/7/2019 | 10/13/2020 | 9/21/2022 |
| Inorganics |           |            |           |
| Manganese  | 292       | 330        | 256 (252) |

| MWF12-01R             |            |            |           |
|-----------------------|------------|------------|-----------|
| Date                  | 10/13/2020 | 10/18/2021 | 9/22/2022 |
| Inorganics            |            |            |           |
| Manganese             | 190        | 150 (142)  | 801       |
| Manganese (dissolved) | 194        | 140 (142)  | 698       |

| MWW10-SEN02            |           |            |            |  |
|------------------------|-----------|------------|------------|--|
| Date                   | 10/8/2019 | 10/16/2020 | 10/12/2021 |  |
| Inorganics             |           |            |            |  |
| Arsenic                | 9         | < 2 U      | < 2 U      |  |
| Chromium               | 96        | 9          | 9          |  |
| Copper                 | 58        | < 5 U      | < 5 U      |  |
| Iron                   | 20,600    | NA         | 100        |  |
| Lead                   | 9         | < 3 U      | < 3 U      |  |
| Manganese              | 284       | < 5 U      | < 5 U      |  |
| Mercury                | < 0.2 U   | < 0.2 U    | 0.4        |  |
| Nickel                 | 105       | 12         | 9          |  |
| Silver                 | < 0.5 U   | < 0.5 U    | < 0.5 U    |  |
| Vanadium               | 22        | < 5 U      | < 5 U      |  |
| Zinc                   | 57        | < 5 U      | < 5 U      |  |
| Miscellaneous          |           |            |            |  |
| Total dissolved solids | 1,280,000 | NA         | 934,000    |  |

| MWOS-02               |            |           |
|-----------------------|------------|-----------|
| Date                  | 10/12/2021 | 9/30/2022 |
| Inorganics            |            |           |
| Manganese             | 530        | 380       |
| Manganese (dissolved) | 337        | 315       |

| MWOS-01               |            |           |
|-----------------------|------------|-----------|
| Date                  | 10/12/2021 | 10/3/2022 |
| Inorganics            |            |           |
| Manganese             | 71         | 424       |
| Manganese (dissolved) | 67         | 293       |

| MWW1-15                |           |            |            |           |
|------------------------|-----------|------------|------------|-----------|
| Date                   | 10/8/2019 | 10/15/2020 | 10/15/2021 | 9/26/2022 |
| Inorganics             |           |            |            |           |
| Arsenic                | 2         | 2          | 3          | 4         |
| Chromium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Copper                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Iron                   | 5,040     | 6,910      | 11,200     | 12,100    |
| Lead                   | < 3 U     | < 3 U      | < 3 U      | < 3 U     |
| Manganese              | 207       | 216        | 305        | 368       |
| Mercury                | < 0.2 U   | < 0.2 U    | < 0.2 U    | < 0.2 U   |
| Nickel                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Silver                 | < 0.5 U   | < 0.5 U    | < 0.5 U    | < 0.5 U   |
| Vanadium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Zinc                   | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Miscellaneous          |           |            |            |           |
| Total dissolved solids | 724,000   | 654,000    | 1,110,000  | 1,250,000 |

| MWW1-04                |           |            |            |           |
|------------------------|-----------|------------|------------|-----------|
| Date                   | 10/7/2019 | 10/16/2020 | 10/13/2021 | 9/29/2022 |
| Inorganics             |           |            |            |           |
| Iron                   | NA        | NA         | NA         | 30        |
| Vanadium (dissolved)   | 8         | 6          | < 5 U      | 7         |
| Miscellaneous          |           |            |            |           |
| Total dissolved solids | NA        | NA         | 328,000    | 416,000   |

| TW-MD-03               |           |            |            |           |
|------------------------|-----------|------------|------------|-----------|
| Date                   | 10/8/2019 | 10/14/2020 | 10/14/2021 | 9/27/2022 |
| Inorganics             |           |            |            |           |
| Arsenic                | NA        | 3          | < 2 U      | 4         |
| Chromium               | NA        | < 5 U      | < 5 U      | < 5 U     |
| Copper                 | NA        | < 5 U      | < 5 U      | < 5 U     |
| Iron                   | 2,030     | 8,580      | 8,480      | 8,700     |
| Lead                   | NA        | < 3 U      | < 3 U      | < 3 U     |
| Manganese              | NA        | 288        | 741        | 1,640     |
| Manganese (dissolved)  | 250       | NA         | NA         | NA        |
| Mercury                | NA        | < 0.2 U    | < 0.2 U    | < 0.2 U   |
| Nickel                 | NA        | < 5 U      | < 5 U      | < 5 U     |
| Silver                 | NA        | < 0.5 U    | < 0.5 U    | < 0.5 U   |
| Vanadium               | NA        | < 5 U      | < 5 U      | < 5 U     |
| Zinc                   | NA        | < 5 U      | 6          | 7         |
| Miscellaneous          |           |            |            |           |
| Total dissolved solids | 780,000   | 694,000    | 840,000    | 1,390,000 |

| MW-03-17               |           |            |            |           |
|------------------------|-----------|------------|------------|-----------|
| Date                   | 10/9/2019 | 10/13/2020 | 10/14/2021 | 9/26/2022 |
| Inorganics             |           |            |            |           |
| Arsenic                | < 2 U     | 11         | 18         | 22        |
| Chromium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Copper                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Iron                   | 420       | 1,720      | 8,630      | 12,300    |
| Lead                   | < 3 U     | < 3 U      | < 3 U      | < 3 U     |
| Manganese              | 840       | 1,330      | 1,000      | 707       |
| Mercury                | < 0.2 U   | < 0.2 U    | < 0.2 U    | < 0.2 U   |
| Nickel                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Silver                 | < 0.5 U   | < 0.5 U    | < 0.5 U    | < 0.5 U   |
| Vanadium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Zinc                   | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Miscellaneous          |           |            |            |           |
| Total dissolved solids | 850,000   | 1,250,000  | 1,920,000  | 1,630,000 |

| INJ-01-17              |                   |            |            |           |
|------------------------|-------------------|------------|------------|-----------|
| Date                   | 10/8/2019         | 10/14/2020 | 10/14/2021 | 9/26/2022 |
| Inorganics             |                   |            |            |           |
| Arsenic                | 3 (3)             | NA         | 4          | 5         |
| Chromium               | < 5 U (< 5 U)     | NA         | < 5 U      | < 5 U     |
| Copper                 | < 5 U (< 5 U)     | NA         | < 5 U      | < 5 U     |
| Iron                   | 3,400             | NA         | 19,700     | 21,400    |
| Iron (dissolved)       | NA                | 2,870      | NA         | NA        |
| Lead                   | < 3 U (< 3 U)     | NA         | < 3 U      | < 3 U     |
| Manganese              | NA                | 640        | 576        | NA        |
| Manganese (dissolved)  | NA                | 368        | NA         | NA        |
| Mercury                | < 0.2 U (< 0.2 U) | NA         | < 0.2 U    | < 0.2 U   |
| Nickel                 | < 5 U (< 5 U)     | NA         | < 5 U      | < 5 U     |
| Silver                 | < 0.5 U (< 0.5 U) | NA         | < 0.5 U    | < 0.5 U   |
| Vanadium               | < 5 U (< 5 U)     | NA         | < 5 U      | < 5 U     |
| Zinc                   | 7 (8)             | NA         | 18         | 5         |
| Miscellaneous          |                   |            |            |           |
| Total dissolved solids | 844,000 (844,000) | 1,260,000  | 1,970,000  | 1,610,000 |

| INJ-02-18              |           |            |            |           |
|------------------------|-----------|------------|------------|-----------|
| Date                   | 10/8/2019 | 10/14/2020 | 10/14/2021 | 9/26/2022 |
| Inorganics             |           |            |            |           |
| Arsenic                | NA        | 2          | 4          | 7         |
| Chromium               | NA        | < 5 U      | < 5 U      | < 5 U     |
| Copper                 | NA        | < 5 U      | 40         | 13        |
| Iron                   | 20,900    | 15,100     | 21,400     | 19,600    |
| Lead                   | NA        | < 3 U      | < 3 U      | < 3 U     |
| Manganese              | NA        | 393        | 623        | 540       |
| Manganese (dissolved)  | 356 f     | NA         | 650        | NA        |
| Mercury                | NA        | < 0.2 U    | < 0.2 U    | < 0.2 U   |
| Nickel                 | NA        | < 5 U      | < 5 U      | < 5 U     |
| Silver                 | NA        | < 0.5 U    | < 0.5 U    | < 0.5 U   |
| Vanadium               | NA        | < 5 U      | < 5 U      | < 5 U     |
| Zinc                   | NA        | < 5 U      | < 5 U      | 5         |
| Miscellaneous          |           |            |            |           |
| Total dissolved solids | 903,000   | 1,260,000  | 1,950,000  | 1,730,000 |

| MWW01-SEN04            |           |            |            |           |
|------------------------|-----------|------------|------------|-----------|
| Date                   | 10/9/2019 | 10/13/2020 | 10/15/2021 | 9/28/2022 |
| Inorganics             |           |            |            |           |
| Arsenic                | 20        | 5          | 6          | 6         |
| Chromium               | 190       | < 5 U      | < 5 U      | < 5 U     |
| Copper                 | 174       | 9          | < 5 U      | < 5 U     |
| Iron                   | 100,000   | 20,300     | 17,000     | 11,300    |
| Lead                   | 1,700     | 15         | 4          | 12        |
| Manganese              | 2,520     | 769        | 686        | 454       |
| Mercury                | 0.4       | < 0.2 U    | < 0.2 U    | < 0.2 U   |
| Nickel                 | 111       | < 5 U      | < 5 U      | < 5 U     |
| Silver                 | < 0.5 U   | < 0.5 U    | < 0.5 U    | < 0.5 U   |
| Vanadium               | 62        | < 5 U      | < 5 U      | < 5 U     |
| Zinc                   | 191       | < 5 U      | < 5 U      | < 5 U     |
| Miscellaneous          |           |            |            |           |
| Total dissolved solids | 1,000,000 | 1,360,000  | 1,320,000  | 1,060,000 |

| TW-MD-07               |           |            |            |           |
|------------------------|-----------|------------|------------|-----------|
| Date                   | 10/9/2019 | 10/14/2020 | 10/14/2021 | 9/27/2022 |
| Inorganics             |           |            |            |           |
| Arsenic                | 4         | 3          | < 2 U      | 3         |
| Chromium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Copper                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Iron                   | 10,000    | 24,300     | 34,600     | 16,800    |
| Lead                   | < 3 U     | < 3 U      | < 3 U      | < 3 U     |
| Manganese              | 378       | 470        | 547        | 437       |
| Mercury                | < 0.2 U   | < 0.2 U    | < 0.2 U    | < 0.2 U   |
| Nickel                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Silver                 | < 0.5 U   | < 0.5 U    | < 0.5 U    | < 0.5 U   |
| Vanadium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Zinc                   | < 5 U     | < 5 U      | 5          | < 5 U     |
| Miscellaneous          |           |            |            |           |
| Total dissolved solids | 1,220,000 | 1,820,000  | 3,040,000  | 1,220,000 |

| TW-MD-04               |           |            |            |           |
|------------------------|-----------|------------|------------|-----------|
| Date                   | 10/8/2019 | 10/14/2020 | 10/14/2021 | 9/27/2022 |
| Inorganics             |           |            |            |           |
| Arsenic                | 6         | 3          | 4          | 6         |
| Chromium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Copper                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Iron                   | 13,800    | 11,800     | 11,700     | 11,700    |
| Lead                   | < 3 U     | < 3 U      | < 3 U      | < 3 U     |
| Manganese              | 571       | 440        | 462        | 356       |
| Mercury                | < 0.2 U   | < 0.2 U    | < 0.2 U    | < 0.2 U   |
| Nickel                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Silver                 | < 0.5 U   | < 0.5 U    | < 0.5 U    | < 0.5 U   |
| Vanadium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Zinc                   | < 5 U     | < 5 U      | < 5 U      | 5         |
| Miscellaneous          |           |            |            |           |
| Total dissolved solids | 792,000   | 658,000    | 788,000    | 1,300,000 |

| MW-04-17               |           |            |            |           |
|------------------------|-----------|------------|------------|-----------|
| Date                   | 10/8/2019 | 10/13/2020 | 10/14/2021 | 9/26/2022 |
| Inorganics             |           |            |            |           |
| Arsenic                | 7         | 6          | 8          | 13        |
| Chromium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Copper                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Iron                   | 6,000     | 12,400     | 19,100     | 12,500    |
| Lead                   | < 3 U     | < 3 U      | < 3 U      | < 3 U     |
| Manganese              | 597       | 451        | 698        | 564       |
| Mercury                | < 0.2 U   | < 0.2 U    | < 0.2 U    | < 0.2 U   |
| Nickel                 | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Silver                 | < 0.5 U   | < 0.5 U    | < 0.5 U    | < 0.5 U   |
| Vanadium               | < 5 U     | < 5 U      | < 5 U      | < 5 U     |
| Zinc                   | < 5 U     | < 5 U      | < 5 U      | 5         |
| Miscellaneous          |           |            |            |           |
| Total dissolved solids | 884,000   | 1,220,000  | 1,960,000  | 1,560,000 |







**LEGEND**

-  EXISTING MONITORING WELL
-  NO EXCEEDANCES OF APPLICABLE CRITERIA FROM SAMPLING EVENTS BETWEEN 2019-2022
-  NOT ANALYZED FOR PCB's
-  CURRENT OR FORMER RACER PROPERTY

|            | Units | Residential Drinking Water | Nonresidential Drinking Water | Groundwater Surface Water Interface | Residential Groundwater Volatilization to Indoor Air Inhalation Criteria | Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria | Residential Volatilization to Indoor Air Pathway Screening Levels | Nonresidential Volatilization to Indoor Air Pathway Screening Levels |
|------------|-------|----------------------------|-------------------------------|-------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------|
| PCBs       |       |                            |                               |                                     |                                                                          |                                                                             |                                                                   |                                                                      |
| Total PCBs | ug/L  | 0.5                        | 0.5                           | 0.2                                 | 45                                                                       | 45                                                                          | 0.031                                                             | 0.07                                                                 |

< NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT.

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

PCB POLYCHLORINATED BIPHENYLS

NOTES:

1. ALL CONCENTRATIONS ARE PRESENTED IN MICROGRAMS PER LITER (ug/L).

2. DATABOXES PRESENTED ON THIS FIGURE INCLUDE ONLY THOSE PARAMETERS WHERE REGULATORY EXCEEDANCES OF PROMULGATED CRITERIA EXISTS ANYTIME FROM 2019-2022.

3. OTHER CRITERIA LISTED ARE FROM THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE) CLEAN UP CRITERIA REQUIREMENTS TABLE 1: GROUNDWATER: RESIDENTIAL AND NONRESIDENTIAL, PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS, DECEMBER 21, 2020.



0 800 1,600

SCALE IN FEET

RACER TRUST  
PONTIAC NORTH CAMPUS  
PONTIAC, MICHIGAN

**GROUNDWATER ANALYTICAL SUMMARY  
POLYCHLORINATED BIPHENYLS (PCBs)  
SEPTEMBER 2022**



FIGURE  
**3C**





- |                              | Units | Residential Drinking Water | Nonresidential Drinking Water | Groundwater Surface Water Interface | Nonresidential Health Based Drinking Water Value | Residential Volatilization to Indoor Air Pathway Screening Levels | Nonresidential Volatilization to Indoor Air Pathway Screening Levels | Residential Rf SVOCs "Stab On Grade" | Residential FIRO SVIs Basements |
|------------------------------|-------|----------------------------|-------------------------------|-------------------------------------|--------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------|---------------------------------|
| <b>Field Parameters</b>      | SI    | 0.6-5.5 (E)                | 0.5-8.5 (E)                   | 0.5-5.0                             | --                                               | --                                                                | --                                                                   | --                                   | --                              |
| <b>pH</b>                    |       |                            |                               |                                     |                                                  |                                                                   |                                                                      |                                      |                                 |
| <b>VOCs</b>                  |       |                            |                               |                                     |                                                  |                                                                   |                                                                      |                                      |                                 |
| 1,4-Dioxane                  | ug/L  | 7.2                        | 350                           | 280                                 | --                                               | 54,000                                                            | 130,000                                                              | 43,000                               | 22,000                          |
| Tetrachloroethene            | ug/L  | 5                          | 5                             | 50                                  | --                                               | 130                                                               | 130                                                                  | 200                                  | --                              |
| Trichloroethene              | ug/L  | 5                          | 5                             | 200                                 | --                                               | 50                                                                | 50                                                                   | 315                                  | --                              |
| Vinyl Chloride               | ug/L  | 2                          | 2                             | 13                                  | --                                               | 2.1                                                               | 18                                                                   | 2.2                                  | 1.2                             |
| <b>Organics</b>              |       |                            |                               |                                     |                                                  |                                                                   |                                                                      |                                      |                                 |
| Manganese                    | ug/L  | 30                         | 50                            | 1,300                               | 2,500                                            | --                                                                | --                                                                   | --                                   | --                              |
| Manganese (dissolved)        | ug/L  | 30                         | 50                            | 1,300                               | 2,500                                            | --                                                                | --                                                                   | --                                   | --                              |
| Vanadium                     | ug/L  | 4.5                        | 62                            | 27                                  | --                                               | --                                                                | 2.2                                                                  | --                                   | --                              |
| Iron                         | ug/L  | 300                        | 300                           | --                                  | 5,600                                            | --                                                                | 2.2                                                                  | --                                   | --                              |
| Silver                       | ug/L  | 34                         | 98                            | 0.2                                 | --                                               | --                                                                | --                                                                   | --                                   | --                              |
| <b>PCBs</b>                  |       |                            |                               |                                     |                                                  |                                                                   |                                                                      |                                      |                                 |
| Total PCBs                   | ug/L  | 0.5                        | 0.5                           | 0.2                                 | --                                               | 0.031                                                             | 0.97                                                                 | --                                   | --                              |
| <b>Miscellaneous</b>         |       |                            |                               |                                     |                                                  |                                                                   |                                                                      |                                      |                                 |
| Total dissolved solids (TDS) | ug/L  | 500                        | 500                           | 500                                 | 500                                              | --                                                                | --                                                                   | --                                   | --                              |
- \* ONLY APPLIES TO WELLS ON FORMER FIERO PROPERTY
- E CRITERION IS THE AESTHETIC DRINKING WATER VALUE, AS REQUIRED BY SECTION 21020(a)(5) OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA 451, AS AMENDED (NREPA)

SSVIAC SITE SPECIFIC VOLATILIZATION TO INDOOR AIR CRITERIA

< NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT.

SU STANDARD UNIT

[ ] DUPLICATE ANALYSES ARE PRESENTED IN BRACKETS.

NA NOT ANALYZED

VOC VOLATILE ORGANIC COMPOUND

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

NOTES:

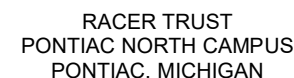
1. ALL CONCENTRATIONS ARE PRESENTED IN MICROGRAMS PER LITER (µg/L) EXCEPT FOR pH, WHICH IS PRESENTED IN STANDARD UNITS (SU)

2. DATABOXES PRESENTED ON THIS FIGURE INCLUDE ONLY THOSE PARAMETERS WHERE REGULATORY EXCEEDANCES OF PROMULGATED CRITERIA EXISTS ANYTIME FROM 2019-2022

3. pH RDW AND NRDW CRITERIA REPRESENT AESTHETIC DRINKING WATER VALUES AS REQUIRED BY SECTION 20120A(5) OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA 451, AS AMENDED (NREPA).

4. MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE) DEVELOPED SITE-SPECIFIC VOLATILIZATION TO INDOOR AIR CRITERIA (SSVIAC) FOR THE FORMER FIERO ASSEMBLY, APRIL 21, 2020.

5. OTHER CRITERIA LISTED ARE FROM THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE) CLEAN UP CRITERIA REQUIREMENTS TABLE 1: GROUNDWATER: RESIDENTIAL AND NONRESIDENTIAL, PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS. DECEMBER 21, 2020.



## GROUNDWATER ANALYTICAL SUMMARY PROPERTY BOUNDARIES AND SELECTED OFFSITE WELLS SEPTEMBER 2022



# Appendix A

**2009 GMP Request and USEPA Approval**

*Transmitted Via Email*

October 30, 2009

Mr. Nate Nemani  
United States Environmental Protection Agency  
Region V, LU-9J  
77 West Jackson Street  
Chicago, IL 60604-3590  
LU-9J

Re: GM Pontiac North Campus – Semi-Annual Groundwater Monitoring Program Proposed Modifications

Dear Mr. Nemani:

The purpose of this letter is to request approval from the United States Environmental Protection Agency (U.S. EPA) to modify the Groundwater Monitoring Program (GMP) for the General Motors Pontiac North Campus Facility (Facility) located in Pontiac, Michigan.

GM Corporation filed for Chapter 11 protection on June 1, 2009 under the Bankruptcy Code. On July 10, 2009, GM Company (since renamed GM LLC) was created through the sale of certain GM Corporation assets pursuant to Section 363 of the Bankruptcy Code. General Motors Corporation (renamed MLC) remains in Chapter 11 bankruptcy protection and is managing the assets that were not sold to GM Company (now GM LLC). A portion of the Pontiac North Campus is part of GM LLC and a portion remains with MLC. GM LLC and MLC are jointly submitting this request until the facility separation discussions (e.g., utility splits) are completed and we have an agreement with U.S. EPA on managing the Corrective Action in the future.

Attachment A details the proposed changes to the GMP and provides supporting information. These include the elimination of select monitoring wells and parameters, a change in monitoring frequency and terminating the program after 2 additional years of sampling.

We are requesting U.S. EPA approval of the proposed modifications to the GMP provided in Attachment A, including termination of the program after an additional 2 years (ending in November 2011) if concentrations remain stable or decline. MLC and GM LLC feel that a 2 year timeframe is appropriate given the quantity of groundwater data that has been generated since 2001. Based on the extensive database of analytical data, and the observed stability of groundwater conditions at the Facility, the proposed modifications present a modest reduction in monitoring that will continue to demonstrate that the conditions at the Facility are adequately assessed.



The next semi-annual groundwater sampling event is scheduled for early December 2009. We would appreciate your expeditious review of these modifications so we can eliminate unnecessary sampling during the December monitoring event. To facilitate your review, GM LLC and MLC propose a conference call on Thursday November 5<sup>th</sup> or Friday November 6<sup>th</sup>, 2009 to discuss these proposed modifications to the Groundwater Monitoring Program. In the meantime, if you have any questions please feel free to contact the undersigned.

Sincerely,

Robert Hare  
MLC Project Manager  
248-225-3277

Jean Caufield  
GM LLC Project Manager  
313-506-9468

cc: John McKenna, ARCADIS  
Gavin O'Neill, CRA  
Francis Ramacciotti, ENVIRON

**Attachment A**  
**Proposed Modifications**  
**Semi-Annual Groundwater Monitoring Program**

On October 10, 2000, GM Corporation (now MLC) and the U.S. EPA entered into a Performance Based Corrective Action Agreement for the Pontiac North Campus Site. The Site encompasses approximately 595 acres in the northwest quadrant of the City of Pontiac. Groundwater samples have been collected from select monitoring wells on a semi-annual basis since 2002 as part of the GMP to demonstrate that constituent concentrations in groundwater are stable and that migration of contaminated groundwater is not occurring. The Groundwater Monitoring Program (GMP) was presented as part of the Environmental Indicators (EI) CA750 determination (ENVIRON, 2002). Since 2002, GM Corporation added several additional monitoring wells to the GMP at the request of the U.S. EPA. Following each monitoring event a report summarizing the results was prepared and submitted to U.S. EPA. Following the semi-annual sampling events of 2008, the groundwater monitoring program was evaluated to determine if modifications to the plan are warranted.

Two initial rounds of sampling were completed at each monitoring well that was installed as part of the RFI Work Plan (ENCORE, 2001). Monitoring wells included in the GMP have been sampled on a semi-annual basis since 2002. Additional wells were added to the GMP as additional RFI activities were completed or additional groundwater monitoring was required as a provision for completed Interim Measures (IM). When the analytical data from the semi-annual sampling appeared to be anomalous an additional groundwater sample was immediately collected from that individual well to verify the results for individual constituent(s). These confirmation samples are identified as a Partial Sample Event.

A comprehensive database of these analytical results has been developed over the past eight years. Even though groundwater at the Facility is not used as a drinking water source, analytical results were compared against both Michigan Department of Environmental Quality (MDEQ) Part 201 Residential Drinking Water criteria (RDW) and Industrial Drinking Water (IDW) criteria. Stable or reducing conditions have been observed in at least four sampling events in the analytical results at several locations included in the GMP.

This submittal proposes the following:

- 1) Elimination of select monitoring wells and parameters from the GMP,
- 2) Change the frequency of monitoring from semi-annual to annual; and
- 3) Implement the GMP for 2 more years and terminate it after that provided the data continue to show stable or decreasing trends.

The attached Table 1 provides an evaluation of each monitoring well in the semi-annual sampling program, and indicates modifications being proposed to the sample collection frequency and associated groundwater analysis.

## **SEMI-VOLATILE ORGANIC COMPOUNDS**

Semi-volatile organic compounds (SVOCs) were analyzed for at the majority of the monitoring wells in the GMP. Two SVOCs were only detected above drinking water criteria in three monitoring wells, IWD7, MWW1-02 and MWW1-04. Bis (2-Ethylhexyl)phthalate was detected above the screening criteria once (January 2002) out of 16 sampling events at monitoring well IWD7 and once (October 2004) out of 14 sampling events at well MWW1-02. Bis (2-Ethylhexyl)phthalate is a common laboratory contaminant. Pentachlorophenol was detected above the screening criteria in monitoring well MWW1-04 four (November 2005, February 2006, May 2006, and November 2007) out of 15 samples collected. Based on this evaluation, it is proposed that SVOCs be removed from the analytical parameter list for the GMP.

## **SHALLOW MONITORING WELLS**

For shallow monitoring wells (designated MW) at the Facility, 8 monitoring wells are proposed for elimination from the sampling program. Sample frequency for the remaining monitoring wells is proposed to be reduced from semi-annual to annual for two more years, ending in November 2011 (see Table 1A). The eight monitoring wells (MWD6, MWW1-02, MWW1-03, MWW1-06, MWF12-02, MWM16-05, MWM16-22, and MWM16-54) are proposed to be removed from the GMP because the analytical results have either not exceeded drinking water criteria, were non-detect, or if constituents were detected above criteria the concentrations have stabilized.

Monitoring wells located downgradient of light non-aqueous phase liquid (LNAPL) Area Nos. 1, 2, 3, and 9/10 will continue to be sampled to monitor the upgradient LNAPL areas. Monitoring wells MW40-99 and MWW9-01 are all located downgradient of LNAPL areas. These monitoring locations have not exhibited elevated concentrations of volatile organic compounds (VOCs), PCBs, or site specific parameter list (SSPL) metals and detected concentrations have stabilized. However, they will continue to be sampled to monitor the upgradient LNAPL areas. We propose that these wells be sampled annually instead of the current semi-annual monitoring.

For shallow monitoring wells that have a limited number of sample events (MWW5-01, MWM16-21, MWM16-43, and MWW8-65) the sample frequency will be reduced to annually. Some of these wells have only been sampled three to five times, thus precluding observation of contaminant concentration trends.

Five shallow monitoring wells have been sampled for total dioxins (MWW1-02, MWW1-03, MWW1-04, MWW1-06, and MW40-99). Exceedances of the screening criteria were observed at MWW1-03, MWW1-04 and MW40-99. Dioxins have been reported exceeding criteria three times (15 total samples collected) in monitoring well MWW1-03 and have not been detected above criteria since May 2008. Following the detection of dioxins exceeding criteria in May 2008 a confirmatory sample was collected and the results were non-detect. Dioxins have been reported exceeding criteria once (15 total samples) in monitoring well MWW1-04 and have not been reported exceeding criteria since May 2006. Dioxins have been reported exceeding criteria twice (14 total samples) in monitoring well MW40-99 and have not been reported exceeding criteria since May 2007. We are proposing that dioxins be removed from the sampling program due to the low levels observed and stability of the analytical results.



## **INTERMEDIATE MONITORING WELLS**

We are proposing that intermediate monitoring wells (designated IW) at the Facility be removed from the groundwater sampling program, as shown on Table 1B. Groundwater samples have been collected from monitoring well IWP5 a total of 15 times. Thallium (dissolved) was detected in this well above screening criteria in January 2001 and has not exceeded the screening criteria since (15 sample events). Acetone has also been detected above the screening criteria; however it was reported in the RFI Report (ENCORE 2002) that it has been documented that bentonite pellets, which were used in the well construction, have been known to contain acetone. Acetone is also a common laboratory contaminant. Acetone has not been detected above criteria since November 2002 (12 sample events). Groundwater samples have also been collected 15 times from monitoring well IWD7. Bis (2-Ethylhexyl)phthalate, lead, and vanadium were detected above the screening criteria once in January 2002. Since that time these three constituents have not been detected above screening criteria (13 sample events). Arsenic was detected twice above screening criteria (May and November 2007 sampling events) in this well. In both subsequent sampling events (October 2007 and November 2008) arsenic did not exceed the screening criteria.

Groundwater samples have never been collected from monitoring well IWP2, due to insufficient water in the well to collect a sample. For this reason, this well should be removed from the GMP and abandoned.

## **DEEP MONITORING WELLS**

We are proposing that deep monitoring wells (designated GW and DW) be removed from the groundwater sampling program (Table 1C). As part of the original RFI activities, groundwater monitoring wells were installed into two deeper groundwater bearing units (outwash deposits) at the Facility. Deep monitoring wells designated as GW (e.g. GWD8) were installed between 878 and 893 feet above mean sea level (AMSL) in a sand zone (upper outwash deposits). The depth of the GW wells range from 55 to 107 feet below ground surface. Monitoring wells were also installed in a deeper groundwater bearing zone (lower outwash deposits) to determine if a downward vertical hydraulic gradient existed at the Facility and if constituents detected in the shallower water bearing units had migrated to the lower water bearing units. These monitoring wells installed in the lower outwash deposits were designated as DW (e.g. DWD10) and were installed between 808 and 858 AMSL in a sand and gravel zone. The depth of the DW wells range from 115 to 150 feet below ground surface.

Chromium has been detected twice and vanadium once exceeding criteria in monitoring well GWP6. Neither has been detected above criteria since November 2007. Lead and vanadium have been detected once each exceeding criteria in monitoring well GWP3; neither has been detected above criteria since May 2005. The only other two constituents detected above criteria were methylene chloride in monitoring well DWD12 in (May 2003) and acetone in monitoring wells GWD8 (September 2001), GWD9 (May and December 2003), GWP3 (September 2001, and GWP6 (September 2001 and January 2002). Both of these constituents are common laboratory contaminants and acetone has also been documented to be contained in bentonite pellets.

Arsenic is the only other constituent observed above screening criteria in the lower outwash deposits at the Facility. The concentrations of arsenic in the monitoring wells installed in both the upper (GW) and

lower (DW) outwash deposits have been consistent over time. Elevated arsenic concentrations in groundwater in southeastern Michigan are well documented and it is believed that the concentrations detected in these deep monitoring wells are associated with regional background levels. In addition, for monitoring wells where arsenic has been detected above criteria the concentrations have stabilized.

Due to the lack of reported exceedances of VOCs, SVOCs, and PCBs in the deep saturated groundwater zone, it is proposed that the deep monitoring wells be removed from the groundwater monitoring program.

Tables 1A through 1C provide a detailed summary of the proposed changes to the groundwater monitoring program. Appendix A provides the complete set of the semi-annual groundwater sampling analytical tables.

**Subject:** FW: GM Pontiac North Campus - Semi-Annual Groundwater Monitoring Program Proposed Modifications  
**Attachments:** PNC GMP Modification Proposal 10-30-09.pdf

-----Original Message-----

From: Nemani.Nate@epamail.epa.gov [mailto:Nemani.Nate@epamail.epa.gov]  
Sent: Monday, November 23, 2009 2:59 PM  
To: Hare, Robert  
Cc: Landale, Beth; jean.e.caufield@gm.com; McKenna, John; O'Neill, Gavin  
Subject: Re: GM Pontiac North Campus - Semi-Annual Groundwater Monitoring Program Proposed Modifications

Bob:

The proposal modifications to the semi-annual Groundwater Monitoring Program (GMP) outlined in the October 30, 2009 e-mail w/ attachments for the subject facility have been reviewed.

The submittal requested approval for the following provisions.

- a) Elimination of select monitoring wells and parameters from the GMP .
- b) Change of frequency of monitoring from semi-annual to annual for certain wells.
- c) Implement the GMP for two (2) more years and terminate it after that provided the data continue to show stable or decreasing trends.

Based on the review and the justifications offered for the changes, the above provisions a) and b) are hereby approved.

Regarding the provision c), to terminate the GW monitoring after 2 years, a separate request , will need to be submitted at the of the 2-year period with pertinent documentation.

If you have any questions, please contact me.

Nate

NATE NEMANI, P.E.  
RCRA CORRECTIVE ACTION PROJECT MANAGER  
LAND AND CHEMICALS DIVISION  
REMEDATION AND REUSE BRANCH,  
U. S.EPA, REGION 5 ,  
77 W JACKSON Blvd, CHICAGO, ILLINOIS, 60604, Mail Code: LU-9J  
(312) 886-3224 (PHONE)  
(312) 692-2176 (FAX)  
[nemani.nate@epa.gov](mailto:nemani.nate@epa.gov) (e-mail address)



From: "O'Neill, Gavin" <goneill@craworld.com>  
To: Nate Nemani/R5/USEPA/US@EPA  
Cc: "Hare, Robert" <[rhare@alixpartners.com](mailto:rhare@alixpartners.com)>, <[jean.e.caufield@gm.com](mailto:jean.e.caufield@gm.com)>, "Landale, Beth" <[blandale@craworld.com](mailto:blandale@craworld.com)>, "McKenna, John" <[John.McKenna@arcadis-us.com](mailto:John.McKenna@arcadis-us.com)>  
Date: 10/30/2009 01:02 PM  
Subject: GM Pontiac North Campus - Semi-Annual Groundwater Monitoring Program Proposed Modifications

Mr. Nemani

Please find attached a joint request from GM LLC and MLC to modify the Semi-Annual Groundwater Monitoring Program for the GM Pontiac North Campus. As presented in the attached letter, we are proposing a conference call next week on either November 5 or 6, 2009 to discuss the proposed modifications. Please let us know at your earliest convenience your availability for those dates.

Should you have any questions or require additional information, please contact our office.

-----  
Gavin O'Neill  
Conestoga-Rovers & Associates (CRA)

1880 Assumption St., Unit 200  
Windsor, Ontario, N8Y 1C4

Phone: 519.996.9886

Fax: 519.996.3894

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Email: [goneill@CRAworld.com](mailto:goneill@CRAworld.com)  
[www.CRAworld.com](http://www.CRAworld.com)

Think before you print P

Perform every task the safe way, the right way, every time!

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[attachment "PNC Proposed Modifications to GMP.pdf" deleted by Nate Nemani/R5/USEPA/US]

# Appendix B

**2018 GMP Request and USEPA Approval**

# MEMO

To:

Nate Nemani  
USEPA Region 5  
77 West Jackson Boulevard  
Mail Code: LU-9J  
Chicago, Illinois 60604-3507

Copies:

Dave Favero, RACER  
Arcadis File

Arcadis of Michigan, LLC  
28550 Cabot Drive  
Suite 500  
Novi  
Michigan 48377  
Tel 248 994 2240  
Fax 248 994 2241

From:

Brad Saunders, P.E.

Date:

August 27, 2018

Arcadis Project No.:

B0064607.2018

Subject:

RACER Pontiac North Campus – Groundwater Monitoring Program  
Modification Request

---

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, Arcadis of Michigan, LLC (Arcadis) is requesting approval from the United States Environmental Protection Agency (USEPA) to modify the annual groundwater monitoring program at the Pontiac North Campus Site (the Site) located in Pontiac, Michigan (**Figure 1**).

The purpose of this request is to revise the program to incorporate recommended analysis and/or gauging of certain monitoring wells based on the results of continued investigation activities and recommendations pertaining to proposed corrective measures being implemented at the facility.

Based on the results of groundwater investigation activities for 1,4-dioxane and volatile organic compounds (VOCs) at the southwestern Fiero boundary, the following modifications are proposed:

- Add monitoring well MW-02-17 to the annual groundwater sampling list in lieu of monitoring well MWF1R, add both monitoring wells MW-16-23 and MW-16-25, and add new monitoring well MW-05-18 (installed August 2018) to monitor trends in VOCs and 1,4-dioxane concentrations.
- In addition to recommendations above and to facilitate future monitoring for trends in VOCs and 1,4-dioxane concentrations, add monitoring wells MWF7-02, MWF16-06, MW-01-17, TW-MD-01 and TW-MD-07 to the list of monitoring wells gauged and sampled for VOCs and 1,4-dioxane analysis. Also add 1,4-dioxane to the list of analytical parameters for monitoring wells MWF12-01, MWW01-SEN03, MWW1-04, MW40-99, and TW-10-02, and add VOCs to the list of analytical parameters for MWOS-01.



Based on the results of ongoing LNAPL investigation and testing activities, the following modifications are proposed:

- Add annual groundwater and LNAPL gauging of monitoring wells SB-08-14, SB-25-14, SB-43-14, and maintain annual gauging of groundwater and LNAPL of monitoring wells MWW8-65 and TWW8-01.

Based on the approved Proposed Monitoring Well Network (Table 4 in the Montcalm Seep Interim Measures Work Plan), the following modifications are proposed to incorporate baseline (2018) and future annual monitoring requirements:

- Maintenance of gauging for monitoring wells TW-01-03, TW-10-01, and TW-10-02, and expansion of monitoring wells MWW01-SEN03, MWW01-SEN04, MWW5-01, TW-09-01, MWW10-SEN02 which are already on the annual gauging list to include sampling for analysis of specified parameters.
- Addition of injection wells INJ-01-17 and INJ-02-18 (installed August 2018) and monitoring wells MW-03-17, MW-04-17, TW-MD-01, TW-MD-02, TW-MD-03, TW-MD-04, TW-MD-05, TW-MD-06, TW-MD-07, and MWW1-15 to include annual gauging and sampling for specified parameters.

Based on a combination of past analytical results and the availability of data from other nearby monitoring wells and due to complications related to accessibility:

- Remove MWF16-17, MWW8-34, MWW8-45, MWW8-48, RWW8-119, RWW8-124, RWW8-125, RWW8-130, RWW8-131, RWW8-132, TWM2-04, TWMW-05, MWM16-15 and MWM16-45 from the list of monitoring wells which are gauged annually. Also remove MWF1R, MWM16-29, and MWM16-36 from the list of monitoring wells gauged and sampled for VOC analysis annually, and remove annual analysis of VOCs and inorganics from monitoring well MWF12-01.

In conclusion, USEPA approval of the is requested. Please contact us if you have any questions regarding this memo or its attachments.

Sincerely,

Arcadis of Michigan, LLC



Brad Saunders, P.E.

Principal Engineer/ Certified Project Manager

#### Table

Table 1          Annual GW Monitoring List (Rev 2018)

#### Figures

Figure 1          Site Location

Figure 2          Annual Groundwater Monitoring Wells

# TABLES

Table 1  
Annual Groundwater Monitoring List  
RACER Trust Pontiac North Campus

| Well ID         | Annual Gauging | Annual Sampling | VOCs | 1,4-dioxane | Inorganics | PCBs | Geochemical per Montcalm Seep IMWP | Notes                 |
|-----------------|----------------|-----------------|------|-------------|------------|------|------------------------------------|-----------------------|
| <b>SITEWIDE</b> |                |                 |      |             |            |      |                                    |                       |
| MWF1R           |                |                 |      | --          | --         | --   | --                                 | --                    |
| <b>OFFSITE</b>  |                |                 |      |             |            |      |                                    |                       |
| MWOS-01         | X              | X               | X    | --          | --         | --   | --                                 | --                    |
| MWOS-02         | X              | --              | --   | --          | --         | --   | --                                 | --                    |
| MWOS-03         | X              | --              | --   | --          | --         | --   | --                                 | --                    |
| MWOS-04         | X              | --              | --   | --          | --         | --   | --                                 | --                    |
| MWOS-06         | X              | --              | --   | --          | --         | --   | --                                 | --                    |
| <b>FIERO</b>    |                |                 |      |             |            |      |                                    |                       |
| <b>F-7</b>      |                |                 |      |             |            |      |                                    |                       |
| MWF7-01         |                |                 |      | --          | --         | --   | --                                 | --                    |
| MWF7-02         | X              | X               | X    | X           | --         | --   | --                                 | --                    |
| <b>F-8</b>      |                |                 |      |             |            |      |                                    |                       |
| MWF8-01         | X              | X               | X    | --          | --         | --   | --                                 | --                    |
| <b>F-12</b>     |                |                 |      |             |            |      |                                    |                       |
| MWF12-01        | X              | X               |      | X           |            | --   | --                                 | --                    |
| MWF12-02        | X              | X               | X    | --          | Mn         | --   | --                                 | --                    |
| <b>F-16</b>     |                |                 |      |             |            |      |                                    |                       |
| MWF16-10        | X              | --              | --   | --          | --         | --   | --                                 | --                    |
| MWF16-11        | X              | --              | --   | --          | --         | --   | --                                 | --                    |
| MWF16-05        | X              | --              | --   | --          | --         | --   | --                                 | --                    |
| MWF16-06        | X              | X               | X    | X           | --         | --   | --                                 | --                    |
| MWF16-17        |                | --              | --   | --          | --         | --   | --                                 | --                    |
| MWF16-16        | X              | --              | --   | --          | --         | --   | --                                 | --                    |
| MWF16-23        | X              | X               | X    | X           | --         | --   | --                                 | --                    |
| MWF16-25        | X              | X               | X    | X           | --         | --   | --                                 | --                    |
| MW-02-17        | X              | X               | X    | X           | --         | --   | --                                 | --                    |
| MW-05-18        | X              | X               | X    | X           | --         | --   | --                                 | Installed August 2018 |

**Abbreviations**

Mn - Manganese  
Pb - Lead  
PCBs - Polychlorinated biphenyls  
Sb - Antimony  
V - Vanadium  
VOCs - Volatile organic compounds

**Footnotes:**

Geochemical sampling per the Montcalm Seep IMWP includes: calcium, iron, manganese, magnesium, alkalinity, hardness, dissolved and suspended solids.

|  |                                                                                                                                                  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------|
|  | No change in annual gauging and/or sampling.                                                                                                     |
|  | Well and/or associated test parameters are proposed to be added to annual gauging and/or sampling.                                               |
|  | Well has become subject to an annual gauging and sampling requirement relevant to the Montcalm Seep IMWP baseline and annual monitoring program. |
|  | Well and/or associated test parameters are proposed to be removed from annual gauging and/or sampling.                                           |



Table 1  
Annual Groundwater Monitoring List  
RACER Trust Pontiac North Campus

| Well ID                                           | Annual Gauging | Annual Sampling | VOCs | 1,4-dioxane | Inorganics | PCBs | Geochemical per Montcalm Seep IMWP | Notes                                                               |
|---------------------------------------------------|----------------|-----------------|------|-------------|------------|------|------------------------------------|---------------------------------------------------------------------|
| <b>PONTIAC SCHOOL BOARD PROPERTY RIGHT-OF-WAY</b> |                |                 |      |             |            |      |                                    |                                                                     |
| MWPS-02                                           | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| <b>DEMOLITION AREA</b>                            |                |                 |      |             |            |      |                                    |                                                                     |
| <b>W-1</b>                                        |                |                 |      |             |            |      |                                    |                                                                     |
| MWW01-SEN03                                       | X              | X               | X    | X           | X          | X    | X                                  | Previously annual gauging only; subject to Montcalm seep monitoring |
| MWW01-SEN04                                       | X              | X               | X    | --          | X          | X    | X                                  | Previously annual gauging only; subject to Montcalm seep monitoring |
| MWW1-04                                           | X              | X               | X    | X           | Sb, V      | X    | --                                 | --                                                                  |
| MWW1-06                                           | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| MW-40-99                                          | X              | X               | X    | X           | --         | X    | --                                 | --                                                                  |
| MW-01-17                                          | X              | X               | X    | X           | --         | --   | --                                 | --                                                                  |
| TW-01-01                                          | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| TW-01-02                                          | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| TW-01-03                                          | X              | --              | --   | --          | --         | --   | --                                 | Previously annual gauging; also subject per Montcalm Seep IMWP      |
| SB-43-14                                          | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| <b>W-5</b>                                        |                |                 |      |             |            |      |                                    |                                                                     |
| MWW5-01                                           | X              | X               | X    | --          | X          | X    | X                                  | Previously annual gauging only; subject to Montcalm seep monitoring |
| <b>W-8</b>                                        |                |                 |      |             |            |      |                                    |                                                                     |
| TW-03-01                                          | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| MWW8-34                                           |                | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| MWW8-45                                           |                | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| MWW8-48                                           |                | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| MWW8-65                                           | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| RWW8-119                                          |                | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| RWW8-124                                          |                | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| RWW8-125                                          |                | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| RWW8-129                                          | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| RWW8-130                                          |                | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| RWW8-131                                          |                | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| RWW8-132                                          |                | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| RWW8-133                                          | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |

**Abbreviations**

Mn - Manganese  
Pb - Lead  
PCBs - Polychlorinated biphenyls  
Sb - Antimony  
V - Vanadium  
VOCs - Volatile organic compounds

**Footnotes:**

Geochemical sampling per the Montcalm Seep IMWP includes: calcium, iron, manganese, magnesium, alkalinity, hardness, dissolved and suspended solids.

|  |                                                                                                                                                  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------|
|  | No change in annual gauging and/or sampling.                                                                                                     |
|  | Well and/or associated test parameters are proposed to be added to annual gauging and/or sampling.                                               |
|  | Well has become subject to an annual gauging and sampling requirement relevant to the Montcalm Seep IMWP baseline and annual monitoring program. |
|  | Well and/or associated test parameters are proposed to be removed from annual gauging and/or sampling.                                           |

Table 1  
Annual Groundwater Monitoring List  
RACER Trust Pontiac North Campus

| Well ID     | Annual Gauging | Annual Sampling | VOCs | 1,4-dioxane | Inorganics | PCBs | Geochemical per Montcalm Seep IMWP | Notes                                                               |
|-------------|----------------|-----------------|------|-------------|------------|------|------------------------------------|---------------------------------------------------------------------|
| <b>W-8</b>  |                |                 |      |             |            |      |                                    |                                                                     |
| TW-11-01    | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| TW-11-02    | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| TW-09-01    | X              | X               | X    | --          | X          | X    | X                                  | Previously annual gauging only; subject to Montcalm seep monitoring |
| TW-10-01    | X              | --              | --   | --          | --         | --   | --                                 | Previously annual gauging; also subject per Montcalm Seep IMWP      |
| TW-10-02    | X              | --              | --   | X           | --         | --   | --                                 | Previously annual gauging; also subject per Montcalm Seep IMWP      |
| TWW8-01     | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| <b>W-10</b> |                |                 |      |             |            |      |                                    |                                                                     |
| MWW10-03    | X              | X               | X    | --          | Pb, Mn     | X    | --                                 | --                                                                  |
| MWW10-SEN01 | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| MWW10-SEN02 | X              | X               | X    | --          | X          | X    | X                                  | Previously annual gauging only; subject to Montcalm seep monitoring |
| SB-25-14    | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| SB-08-14    | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| <b>MFD</b>  |                |                 |      |             |            |      |                                    |                                                                     |
| <b>M-2</b>  |                |                 |      |             |            |      |                                    |                                                                     |
| MWM2-22     | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| MWM2-28     | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| MWM2-37     | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| TWM2-04     |                | --              | --   | --          | --         | --   | --                                 | No longer present, accessible or necessary                          |
| TWM2-05     |                | --              | --   | --          | --         | --   | --                                 | No longer present, accessible or necessary                          |
| <b>M-4</b>  |                |                 |      |             |            |      |                                    |                                                                     |
| MWM4-05     | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| MWM4-06R    | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| <b>M-5</b>  |                |                 |      |             |            |      |                                    |                                                                     |
| MWM5-02     | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |
| MWM5-03     | X              | --              | --   | --          | --         | --   | --                                 | --                                                                  |

**Abbreviations**

Mn - Manganese  
Pb - Lead  
PCBs - Polychlorinated biphenyls  
Sb - Antimony  
V - Vanadium  
VOCs - Volatile organic compounds

**Footnotes:**

Geochemical sampling per the Montcalm Seep IMWP includes: calcium, iron, manganese, magnesium, alkalinity, hardness, dissolved and suspended solids.

|  |                                                                                                                                                  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------|
|  | No change in annual gauging and/or sampling.                                                                                                     |
|  | Well and/or associated test parameters are proposed to be added to annual gauging and/or sampling.                                               |
|  | Well has become subject to an annual gauging and sampling requirement relevant to the Montcalm Seep IMWP baseline and annual monitoring program. |
|  | Well and/or associated test parameters are proposed to be removed from annual gauging and/or sampling.                                           |

Table 1  
Annual Groundwater Monitoring List  
RACER Trust Pontiac North Campus

| Well ID                         | Annual Gauging | Annual Sampling | VOCs | 1,4-dioxane | Inorganics | PCBs | Geochemical per Montcalm Seep IMWP | Notes                 |
|---------------------------------|----------------|-----------------|------|-------------|------------|------|------------------------------------|-----------------------|
| <b>M-16</b>                     |                |                 |      |             |            |      |                                    |                       |
| MWM16-02                        | X              | X               | X    | --          | --         | --   | --                                 | --                    |
| MWM16-15                        |                | --              | --   | --          | --         | --   | --                                 | --                    |
| MWM16-29                        |                |                 |      | --          | --         | --   | --                                 | --                    |
| MWM16-30                        | X              | X               | X    | --          | --         | --   | --                                 | --                    |
| MWM16-31                        | X              | X               | X    | --          | --         | --   | --                                 | --                    |
| MWM16-36                        |                |                 |      | --          | --         | --   | --                                 | --                    |
| MWM16-37                        | X              | X               | X    | --          | --         | --   | --                                 | --                    |
| MWM16-45                        |                | --              | --   | --          | --         | --   | --                                 | --                    |
| <b>M-31/M-32</b>                |                |                 |      |             |            |      |                                    |                       |
| MWM31-02                        | X              | X               | X    | --          | --         | --   | --                                 | --                    |
| MWM32-01                        | X              | X               | X    | --          | --         | --   | --                                 | --                    |
| <b>Montcalm Seep Monitoring</b> |                |                 |      |             |            |      |                                    |                       |
| INJ-01-17                       | X              | X               | X    | --          | X          | X    | X                                  | --                    |
| INJ-02-18                       | X              | X               | X    | --          | X          | X    | X                                  | Installed August 2018 |
| MW-03-17                        | X              | X               | X    | --          | X          | X    | X                                  | --                    |
| MW-04-17                        | X              | X               | X    | --          | X          | X    | X                                  | --                    |
| TW-MD-01                        | X              | X               | X    | X           | X          | X    | X                                  | --                    |
| TW-MD-02                        | X              | X               | X    | --          | X          | X    | X                                  | --                    |
| TW-MD-03                        | X              | X               | X    | --          | X          | X    | X                                  | --                    |
| TW-MD-04                        | X              | X               | X    | --          | X          | X    | X                                  | --                    |
| TW-MD-05                        | X              | X               | X    | --          | X          | X    | X                                  | --                    |
| TW-MD-06                        | X              | X               | X    | --          | X          | X    | X                                  | --                    |
| TW-MD-07                        | X              | X               | X    | X           | X          | X    | X                                  | --                    |
| MWW1-15                         | X              | X               | X    | --          | X          | X    | X                                  | --                    |

**Abbreviations**

Mn - Manganese  
Pb - Lead  
PCBs - Polychlorinated biphenyls  
Sb - Antimony  
V - Vanadium  
VOCs - Volatile organic compounds

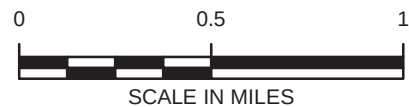
**Footnotes:**

Geochemical sampling per the Montcalm Seep IMWP includes: calcium, iron, manganese, magnesium, alkalinity, hardness, dissolved and suspended solids.

|  |                                                                                                                                                  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------|
|  | No change in annual gauging and/or sampling.                                                                                                     |
|  | Well and/or associated test parameters are proposed to be added to annual gauging and/or sampling.                                               |
|  | Well has become subject to an annual gauging and sampling requirement relevant to the Montcalm Seep IMWP baseline and annual monitoring program. |
|  | Well and/or associated test parameters are proposed to be removed from annual gauging and/or sampling.                                           |



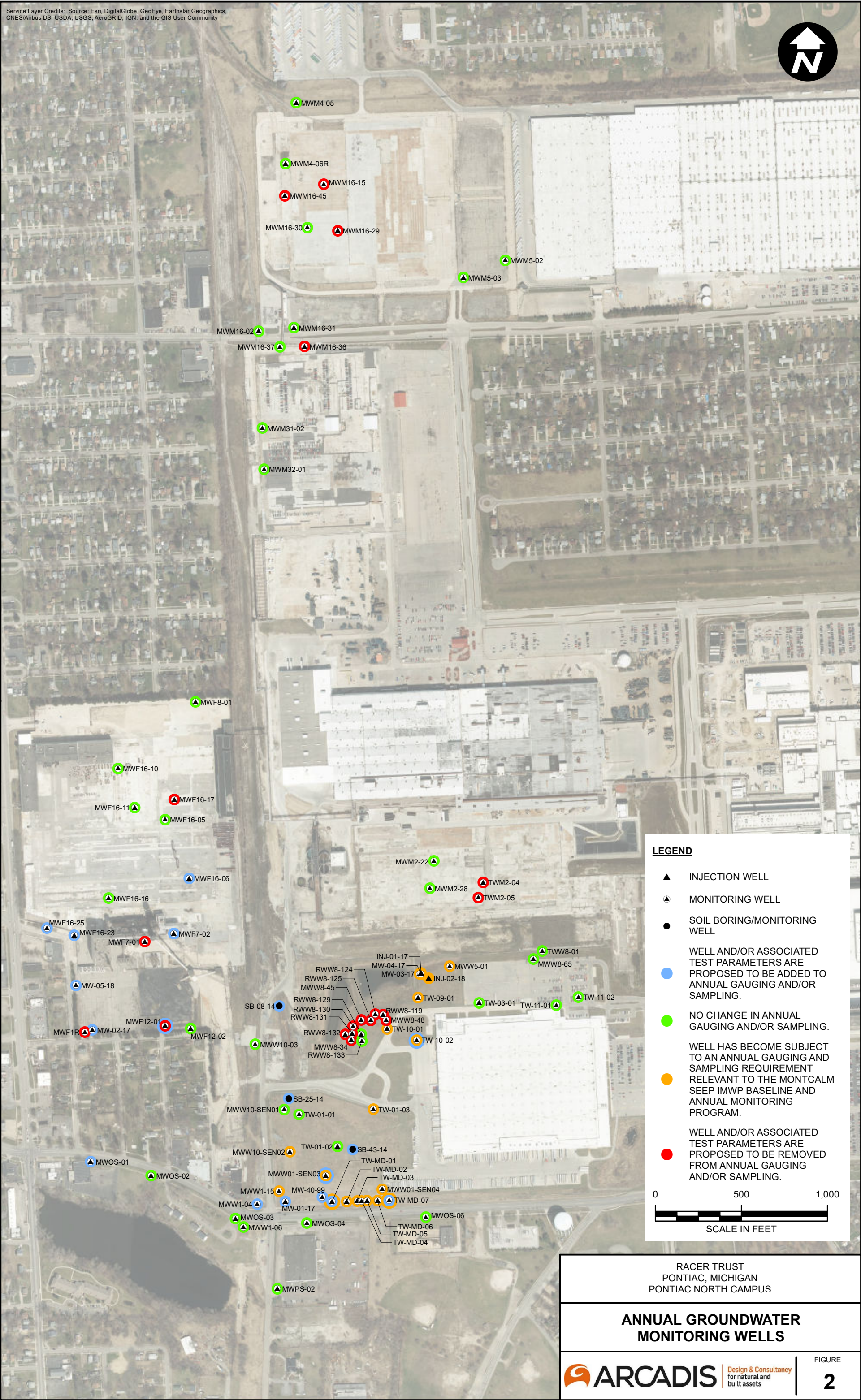
## FIGURES







CITY: NOVI, MI DIV: ENV DB: TRY PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl  
D:\GIS\Project Files\Motors\Liquidation\Company\Pontiac\NorthCampus\Annual GW Monitoring\Wells 2018.mxd PLOTTED: 8/23/2018 11:35:58 AM BY: TYarbrough



**LEGEND**

- ▲ INJECTION WELL
  - ▲ MONITORING WELL
  - SOIL BORING/MONITORING WELL
  - WELL AND/OR ASSOCIATED TEST PARAMETERS ARE PROPOSED TO BE ADDED TO ANNUAL GAUGING AND/OR SAMPLING.
  - NO CHANGE IN ANNUAL GAUGING AND/OR SAMPLING.
  - WELL HAS BECOME SUBJECT TO AN ANNUAL GAUGING AND SAMPLING REQUIREMENT RELEVANT TO THE MONTCALM SEEP IMWP BASELINE AND ANNUAL MONITORING PROGRAM.
  - WELL AND/OR ASSOCIATED TEST PARAMETERS ARE PROPOSED TO BE REMOVED FROM ANNUAL GAUGING AND/OR SAMPLING.
- 0 500 1,000  
SCALE IN FEET

RACER TRUST  
PONTIAC, MICHIGAN  
PONTIAC NORTH CAMPUS

**ANNUAL GROUNDWATER  
MONITORING WELLS**



## Saunders, Brad

---

**From:** Nemani, Nate <nemani.nate@epa.gov>  
**Sent:** Monday, September 17, 2018 2:48 PM  
**To:** Saunders, Brad  
**Cc:** Dave Favero  
**Subject:** RE: RACER PNC - Annual Groundwater Program Modification Memorandum Report / Approval Request

Brad:

EPA hereby grants approval to implement the Annual Groundwater Monitoring with the modifications as outlined in the August 27, 2018 memo/report.

If there are any questions, feel free to contact me.

Nate

NATE NEMANI, P.E.  
RCRA CORRECTIVE ACTION PROJECT MANAGER  
LAND AND CHEMICALS DIVISION  
REMEDATION AND REUSE BRANCH,  
U. S.EPA, REGION 5 ,  
77 W JACKSON Blvd, CHICAGO, ILLINOIS, 60604, Mail Code: LU-9J  
(312) 886-3224 (PHONE)  
(312) 692-2176 (FAX)  
nemani.nate@epa.gov (e-mail address)

---

**From:** Saunders, Brad [mailto:Brad.Saunders@arcadis.com]  
**Sent:** Monday, August 27, 2018 6:28 PM  
**To:** Nemani, Nate <nemani.nate@epa.gov>  
**Cc:** Dave Favero <dfavero@racertrust.org>  
**Subject:** RACER PNC - Annual Groundwater Program Modification Memorandum Report / Approval Request

Nate,

As follow-up to the proposed modifications to the annual groundwater monitoring program which were discussed during our monthly update call today, attached is an electronic version of the memo report and associated table and figures prepared to summarize and highlight/depict changes to the list of monitoring wells proposed to be gauged and sampled during the annual event. Arcadis will also forward two hard copies of the report to your attention.

Upon review, please provide back any questions, or otherwise your approval for implementing changes which are planned for the event scheduled from October 1-5, 2018.

Thanks,

Brad

**Brad Saunders P.E.** | Principal Engineer | [brad.saunders@arcadis.com](mailto:brad.saunders@arcadis.com)  
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Professional Engineer / PE-MI, 6201050540



Be green, leave it on the screen.

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# Appendix C

## Laboratory Analytical Reports





# Analytical Laboratory Report

Report ID: S40606.01(01)  
Generated on 09/30/2022

## 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, Ian Drost

## 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): S40606.01-S40606.06  
Project: 30112891.00005 / Racer PNC  
Collected Date(s): 09/21/2022 - 09/22/2022  
Submitted Date/Time: 09/22/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00005

## Table of Contents

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

---

There is no additional narrative for this analytical report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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 |
|-----------|--------------------|-------------|---------------------|
| S40606.01 | MW-13-22_GW-092122 | Groundwater | 09/21/22 13:20      |
| S40606.02 | MW-14-22_GW-092122 | Groundwater | 09/21/22 14:25      |
| S40606.03 | MWF8-01_GW-092222  | Groundwater | 09/22/22 09:00      |
| S40606.04 | tripblank_53       | Water       | 09/22/22 00:01      |
| S40606.05 | MWF16-16_GW-092222 | Groundwater | 09/22/22 10:00      |
| S40606.06 | DUP-03_GW-092222   | Groundwater | 09/22/22 00:01      |



# Analytical Laboratory Report

Lab Sample ID: S40606.01

Sample Tag: MW-13-22\_GW-092122

Collected Date/Time: 09/21/2022 13:20

Matrix: Groundwater

COC Reference: 157354

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.5               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/28/22 12:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/28/22 01:21, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |





# Analytical Laboratory Report

Lab Sample ID: S40606.01 (continued)

Sample Tag: MW-13-22\_GW-092122

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/28/22 01:21, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40606.02

Sample Tag: MW-14-22\_GW-092122

Collected Date/Time: 09/21/2022 14:25

Matrix: Groundwater

COC Reference: 157354

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.5               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/28/22 12:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/28/22 01:45, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | 2            | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | 12           | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | 1            | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | 10           | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | 89           | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | 19           | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40606.02 (continued)  
Sample Tag: MW-14-22\_GW-092122

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/28/22 01:45, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | 4            | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |





# Analytical Laboratory Report

Lab Sample ID: S40606.03

Sample Tag: MWF8-01\_GW-092222

Collected Date/Time: 09/22/2022 09:00

Matrix: Groundwater

COC Reference: 157354

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.5               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/28/22 12:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/28/22 02:08, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | 1            | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40606.03 (continued)

Sample Tag: MWF8-01\_GW-092222

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/28/22 02:08, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40606.04

Sample Tag: tripblank\_53

Collected Date/Time: 09/22/2022 00:01

Matrix: Water

COC Reference: 157354

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 3.5               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/28/22 12:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 23:47, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40606.04 (continued)

Sample Tag: tripblank\_53

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 23:47, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |





# Analytical Laboratory Report

Lab Sample ID: S40606.05

Sample Tag: MWF16-16\_GW-092222

Collected Date/Time: 09/22/2022 10:00

Matrix: Groundwater

COC Reference: 157354

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.5               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/28/22 12:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/28/22 02:32, Analyst: BML**

| Parameter                      | Result       | RL    | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|-------|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 1,000 |     | ug/L  | 20       | 67-64-1   | Y     |
| 2-Butanone (MEK)               | Not detected | 500   |     | ug/L  | 20       | 78-93-3   | Y     |
| Benzene                        | Not detected | 20    |     | ug/L  | 20       | 71-43-2   | Y     |
| Bromodichloromethane           | Not detected | 20    |     | ug/L  | 20       | 75-27-4   | Y     |
| Bromoform                      | Not detected | 20    |     | ug/L  | 20       | 75-25-2   | Y     |
| Bromomethane                   | Not detected | 100   |     | ug/L  | 20       | 74-83-9   | Y     |
| Carbon disulfide               | Not detected | 100   |     | ug/L  | 20       | 75-15-0   | Y     |
| Carbon tetrachloride           | Not detected | 20    |     | ug/L  | 20       | 56-23-5   | Y     |
| Chlorobenzene                  | Not detected | 20    |     | ug/L  | 20       | 108-90-7  | Y     |
| Chloroethane                   | Not detected | 100   |     | ug/L  | 20       | 75-00-3   | Y     |
| Chloroform                     | Not detected | 20    |     | ug/L  | 20       | 67-66-3   | Y     |
| Chloromethane                  | Not detected | 100   |     | ug/L  | 20       | 74-87-3   | Y     |
| 1,2-Dibromo-3-chloropropane    | Not detected | 100   |     | ug/L  | 20       | 96-12-8   | Y     |
| 1,2-Dichlorobenzene            | Not detected | 20    |     | ug/L  | 20       | 95-50-1   | Y     |
| 1,2-Dichloroethane             | Not detected | 20    |     | ug/L  | 20       | 107-06-2  | Y     |
| 1,2-Dichloropropane            | Not detected | 20    |     | ug/L  | 20       | 78-87-5   | Y     |
| 1,3-Dichlorobenzene            | Not detected | 20    |     | ug/L  | 20       | 541-73-1  | Y     |
| 1,4-Dichlorobenzene            | Not detected | 20    |     | ug/L  | 20       | 106-46-7  | Y     |
| cis-1,2-Dichloroethene         | Not detected | 20    |     | ug/L  | 20       | 156-59-2  | Y     |
| Dibromochloromethane           | Not detected | 100   |     | ug/L  | 20       | 124-48-1  | Y     |
| Dichlorodifluoromethane        | Not detected | 100   |     | ug/L  | 20       | 75-71-8   | Y     |
| trans-1,2-Dichloroethene       | Not detected | 20    |     | ug/L  | 20       | 156-60-5  | Y     |
| Ethylbenzene                   | Not detected | 20    |     | ug/L  | 20       | 100-41-4  | Y     |
| 2-Hexanone                     | Not detected | 1,000 |     | ug/L  | 20       | 591-78-6  | Y     |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 1,000 |     | ug/L  | 20       | 108-10-1  | Y     |
| tert-Methyl butyl ether (MTBE) | Not detected | 100   |     | ug/L  | 20       | 1634-04-4 | Y     |
| Methylene chloride             | Not detected | 100   |     | ug/L  | 20       | 75-09-2   | Y     |
| Styrene                        | Not detected | 20    |     | ug/L  | 20       | 100-42-5  | Y     |
| 1,1,1-Trichloroethane          | Not detected | 20    |     | ug/L  | 20       | 71-55-6   | Y     |
| 1,1,2-Trichloroethane          | Not detected | 20    |     | ug/L  | 20       | 79-00-5   | Y     |
| 1,2,4-Trichlorobenzene         | Not detected | 100   |     | ug/L  | 20       | 120-82-1  | Y     |
| Tetrachloroethene              | 380          | 20    |     | ug/L  | 20       | 127-18-4  | Y     |
| Toluene                        | Not detected | 20    |     | ug/L  | 20       | 108-88-3  | Y     |
| Trichloroethene                | Not detected | 20    |     | ug/L  | 20       | 79-01-6   | Y     |
| Trichlorofluoromethane         | Not detected | 20    |     | ug/L  | 20       | 75-69-4   | Y     |
| Vinyl chloride                 | Not detected | 20    |     | ug/L  | 20       | 75-01-4   | Y     |

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S40606.05 (continued)

Sample Tag: MWF16-16\_GW-092222

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/28/22 02:32, Analyst: BML (continued)**

| Parameter                             | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|-----|-----|-------|----------|------------|-------|
| o-Xylene                              | Not detected | 20  |     | ug/L  | 20       | 95-47-6    | Y     |
| p,m-Xylene*                           | Not detected | 40  |     | ug/L  | 20       |            | Y     |
| Isopropylbenzene                      | Not detected | 20  |     | ug/L  | 20       | 98-82-8    | Y     |
| Cyclohexane                           | Not detected | 20  |     | ug/L  | 20       | 110-82-7   | Y     |
| 1,1-Dichloroethane                    | Not detected | 20  |     | ug/L  | 20       | 75-34-3    | Y     |
| 1,1-Dichloroethene                    | Not detected | 20  |     | ug/L  | 20       | 75-35-4    | Y     |
| Methyl Acetate                        | Not detected | 200 |     | ug/L  | 20       | 79-20-9    | Y     |
| Methyl cyclohexane                    | Not detected | 20  |     | ug/L  | 20       | 108-87-2   | Y     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 20  |     | ug/L  | 20       | 76-13-1    | Y     |
| 1,2-Dibromoethane                     | Not detected | 20  |     | ug/L  | 20       | 106-93-4   | Y     |
| 1,1,2,2-Tetrachloroethane             | Not detected | 20  |     | ug/L  | 20       | 79-34-5    | Y     |
| cis-1,3-Dichloropropene               | Not detected | 20  |     | ug/L  | 20       | 10061-01-5 | Y     |
| trans-1,3-Dichloropropene             | Not detected | 20  |     | ug/L  | 20       | 10061-02-6 | Y     |

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S40606.06

Sample Tag: DUP-03\_GW-092222

Collected Date/Time: 09/22/2022 00:01

Matrix: Groundwater

COC Reference: 157354

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.5               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/28/22 12:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/28/22 16:33, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40606.06 (continued)

Sample Tag: DUP-03\_GW-092222

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/28/22 16:33, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Merit Laboratories Login Checklist

Lab Set ID:S40606

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00005 / Racer PNC

Submitted:09/22/2022 16:00 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.5 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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<br>Tiffany Linder               |  |           |                   |
| COMPANY<br>Arcadis                           |  |           |                   |
| ADDRESS<br>28550 Cabot Dr #500               |  |           |                   |
| CITY<br>Novi                                 |  |           | STATE<br>MI       |
|                                              |  |           | ZIP CODE<br>48317 |
| PHONE NO.<br>248 994 2240                    |  | CELL NO.  | P.O. NO.          |
| E-MAIL ADDRESS<br>Tiffany.Linder@arcadis.com |  | QUOTE NO. |                   |

## CHAIN OF CUSTODY RECORD

|              |  |                               |          |
|--------------|--|-------------------------------|----------|
| CONTACT NAME |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  |                               |          |
| ADDRESS      |  |                               |          |
| CITY         |  | STATE                         | ZIP CODE |
| PHONE NO.    |  | E-MAIL ADDRESS                |          |

**INVOICE TO**

|                                                                                                                                                                                                                             |                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| PROJECT NO./NAME<br>30112891.00005 / Racer PNC                                                                                                                                                                              | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br>Sommer Guy / Sommer Guy |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                              |                                                                |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input type="checkbox"/> EDD <input type="checkbox"/> 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 CODE: | W=WATER   | GW=GROUNDWATER    | WW=WASTEWATER | S=SOIL  | L=LIQUID | SD=SOLID |
|              | SL=SLUDGE | DW=DRINKING WATER | O=OIL         | WP=WIPE | A=AIR    | WS=WASTE |

### # Containers & Preservatives

[illegible]

|                        |                     |                                             |         |       |
|------------------------|---------------------|---------------------------------------------|---------|-------|
| RELINQUISHED BY:       | <i>Sammer Long</i>  | <input checked="" type="checkbox"/> Sampler | DATE    | TIME  |
| SIGNATURE/ORGANIZATION | <i>Arcadis</i>      |                                             | 9/22/22 | 10:30 |
| RECEIVED BY:           | <i>Sammer</i>       |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                     |                                             | 9/22/22 | 10:30 |
| RELINQUISHED BY:       | <i>Sammer</i>       |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                     |                                             | 9/22/22 | 10:30 |
| RECEIVED BY:           | <i>M. Calabrese</i> |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                     |                                             | 9/22/22 | 10:00 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.5</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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

Rev. 1.26.22



# Quality Control Report

Report ID: QC-S40606-01  
Generated on 10/03/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S40606.01-S40606.06  
Project: 30112891.00005 / Racer PNC  
Submitted Date/Time: 09/22/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00005

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-7)  
Prep Batch Summary (Page 8)  
Surrogates per Lab Sample (Pages 9-14)  
Surrogates per QC Sample (Pages 15-16)  
Batch QC Results (Pages 17-24)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S40606.01**

Sample Tag: MW-13-22\_GW-092122

Collected Date/Time: 09/21/2022 13:20

Matrix: Groundwater

COC Reference: 157354

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/28/22 01:21 | 220927B3 | VF220927W2 | Yes  | BLK/LCS/LCSD |



## QC Report - Analysis Summary

**Lab Sample ID: S40606.02**

Sample Tag: MW-14-22\_GW-092122

Collected Date/Time: 09/21/2022 14:25

Matrix: Groundwater

COC Reference: 157354

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/28/22 01:45 | 220927B3 | VF220927W2 | Yes  | BLK/LCS/LCSD |

## QC Report - Analysis Summary

**Lab Sample ID: S40606.03**

Sample Tag: MWF8-01\_GW-092222

Collected Date/Time: 09/22/2022 09:00

Matrix: Groundwater

COC Reference: 157354

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/28/22 02:08 | 220927B3 | VF220927W2 | Yes  | BLK/LCS/LCSD |

## QC Report - Analysis Summary

Lab Sample ID: S40606.04

Sample Tag: tripblank\_53

Collected Date/Time: 09/22/2022 00:01

Matrix: Water

COC Reference: 157354

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 23:47 | 220927B3 | VF220927W2 | Yes  | BLK/LCS/LCSD |

## QC Report - Analysis Summary

**Lab Sample ID: S40606.05**

Sample Tag: MWF16-16\_GW-092222

Collected Date/Time: 09/22/2022 10:00

Matrix: Groundwater

COC Reference: 157354

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/28/22 02:32 | 220927B3 | VF220927W2 | Yes  | BLK/LCS/LCSD |



## QC Report - Analysis Summary

**Lab Sample ID: S40606.06**

Sample Tag: DUP-03\_GW-092222

Collected Date/Time: 09/22/2022 00:01

Matrix: Groundwater

COC Reference: 157354

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/28/22 16:33 | 220928A9 | VF220928W1 | Yes  | BLK/LCS/LCSD |

## QC Report - Prep Batch Summary

### Organics - Volatiles, Prep Batch ID: VF220927W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40606.01 | Volatile Organics - Arcadis | SW5030C/8260C | 09/28/22 01:21 | 220927B3 |
| S40606.02 | Volatile Organics - Arcadis | SW5030C/8260C | 09/28/22 01:45 | 220927B3 |
| S40606.03 | Volatile Organics - Arcadis | SW5030C/8260C | 09/28/22 02:08 | 220927B3 |
| S40606.04 | Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 23:47 | 220927B3 |
| S40606.05 | Volatile Organics - Arcadis | SW5030C/8260C | 09/28/22 02:32 | 220927B3 |

### Organics - Volatiles, Prep Batch ID: VF220928W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40606.06 | Volatile Organics - Arcadis | SW5030C/8260C | 09/28/22 16:33 | 220928A9 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40606.01**

Sample Tag: MW-13-22\_GW-092122

Collected Date/Time: 09/21/2022 13:20

Matrix: Groundwater

COC Reference: 157354

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220927B3, Run Date: 09/28/2022 01:21, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>111.0</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>99.6</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>104.5</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40606.02**

Sample Tag: MW-14-22\_GW-092122

Collected Date/Time: 09/21/2022 14:25

Matrix: Groundwater

COC Reference: 157354

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220927B3, Run Date: 09/28/2022 01:45, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>112.4</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>104.2</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>103.9</b> | 89.0 | 112.0 |



## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40606.03**

Sample Tag: MWF8-01\_GW-092222

Collected Date/Time: 09/22/2022 09:00

Matrix: Groundwater

COC Reference: 157354

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220927B3, Run Date: 09/28/2022 02:08, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>111.1</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>101.3</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>103.8</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40606.04

Sample Tag: tripblank\_53

Collected Date/Time: 09/22/2022 00:01

Matrix: Water

COC Reference: 157354

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220927B3, Run Date: 09/27/2022 23:47, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 111.3 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 100.6 | 72.0 | 125.0 |
| Toluene-D8            |       | 104.6 | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40606.05

Sample Tag: MWF16-16\_GW-092222

Collected Date/Time: 09/22/2022 10:00

Matrix: Groundwater

COC Reference: 157354

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220927B3, Run Date: 09/28/2022 02:32, Matrix: WW, Dilution: 20

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 111.4 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 100.3 | 72.0 | 125.0 |
| Toluene-D8            |       | 105.1 | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40606.06

Sample Tag: DUP-03\_GW-092222

Collected Date/Time: 09/22/2022 00:01

Matrix: Groundwater

COC Reference: 157354

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220928A9, Run Date: 09/28/2022 16:33, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.3 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 102.1 | 72.0 | 125.0 |
| Toluene-D8            |       | 101.6 | 89.0 | 112.0 |



## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF220927W2

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 220927B3.BLKW27B

Run in Batch: 220927B3, Run Date: 09/27/2022 23:23, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>111.7</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>100.1</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>104.4</b> | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 220927B3.LCSW27B

Run in Batch: 220927B3, Run Date: 09/27/2022 21:50, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>114.5</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>102.6</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>104.8</b> | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220927B3.LCSDW27B, Parent Sample ID: 220927B3.LCSW27B

Run in Batch: 220927B3, Run Date: 09/27/2022 22:13, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>114.2</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>100.9</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>104.4</b> | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF220928W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 220928A9.BLKW28A

Run in Batch: 220928A9, Run Date: 09/28/2022 13:21, Prep Date: 09/28/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>104.3</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>105.7</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>101.4</b> | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 220928A9.LCSW28A

Run in Batch: 220928A9, Run Date: 09/28/2022 11:25, Prep Date: 09/28/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>107.2</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>102.7</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.8</b> | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220928A9.LCSDW28A, Parent Sample ID: 220928A9.LCSW28A

Run in Batch: 220928A9, Run Date: 09/28/2022 11:45, Prep Date: 09/28/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>106.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>102.0</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.1</b> | 89.0 | 112.0 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220927W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 220927B3.BLKW27B

Run in Batch: 220927B3, Run Date: 09/27/2022 23:23, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220927W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Blank (BLK) (continued)

Lab Sample ID: 220927B3.BLKW27B

Run in Batch: 220927B3, Run Date: 09/27/2022 23:23, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 220927B3.LCSW27B

Run in Batch: 220927B3, Run Date: 09/27/2022 21:50, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 157.4 | 29.9 | 161.5 |
| 2-Butanone (MEK)               | *     | 144.6 | 44.0 | 134.4 |
| Benzene                        |       | 113.9 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 122.4 | 80.4 | 128.2 |
| Bromoform                      |       | 120.0 | 69.4 | 128.0 |
| Bromomethane                   |       | 122.0 | 56.8 | 151.3 |
| Carbon disulfide               |       | 107.4 | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 113.3 | 72.6 | 133.0 |
| Chlorobenzene                  |       | 111.9 | 79.2 | 122.7 |
| Chloroethane                   |       | 110.7 | 53.4 | 149.4 |
| Chloroform                     |       | 116.6 | 78.4 | 124.0 |
| Chloromethane                  |       | 118.1 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 114.1 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 103.4 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 118.7 | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 118.9 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 102.5 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 103.8 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 117.7 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 117.4 | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 100.3 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 110.5 | 73.6 | 129.3 |
| Ethylbenzene                   |       | 106.9 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 133.8 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 123.2 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 113.2 | 73.2 | 122.4 |
| Methylene chloride             |       | 117.8 | 73.3 | 121.1 |
| Styrene                        |       | 113.9 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 110.8 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          | *     | 123.7 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 95.2  | 27.4 | 143.4 |
| Tetrachloroethene              |       | 115.3 | 74.5 | 124.5 |
| Toluene                        |       | 111.0 | 79.8 | 124.5 |
| Trichloroethene                |       | 111.8 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 115.7 | 59.7 | 151.8 |
| Vinyl chloride                 |       | 110.3 | 43.5 | 149.1 |
| o-Xylene                       |       | 109.2 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 108.7 | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220927W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 220927B3.LCSW27B

Run in Batch: 220927B3, Run Date: 09/27/2022 21:50, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 106.8 | 74.4 | 121.5 |
| Cyclohexane                           |       | 100.7 | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 112.7 | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 107.8 | 69.6 | 139.4 |
| Methyl Acetate                        | *     | 134.1 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 90.9  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 103.9 | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 116.9 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 116.3 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 119.9 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 122.8 | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220927B3.LCSDW27B, Parent Sample ID: 220927B3.LCSW27B

Run in Batch: 220927B3, Run Date: 09/27/2022 22:13, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------------------------|-------|-------|------|-------|-----|--------|
| Acetone                        |       | 156.1 | 29.9 | 161.5 | 0.8 | 30.0   |
| 2-Butanone (MEK)               | *     | 146.0 | 44.0 | 134.4 | 1.0 | 30.0   |
| Benzene                        |       | 112.5 | 79.9 | 124.9 | 1.3 | 30.0   |
| Bromodichloromethane           |       | 122.5 | 80.4 | 128.2 | 0.1 | 30.0   |
| Bromoform                      |       | 118.8 | 69.4 | 128.0 | 1.0 | 30.0   |
| Bromomethane                   |       | 116.3 | 56.8 | 151.3 | 4.7 | 30.0   |
| Carbon disulfide               |       | 107.0 | 63.8 | 137.4 | 0.4 | 30.0   |
| Carbon tetrachloride           |       | 111.1 | 72.6 | 133.0 | 2.0 | 30.0   |
| Chlorobenzene                  |       | 110.3 | 79.2 | 122.7 | 1.4 | 30.0   |
| Chloroethane                   |       | 107.6 | 53.4 | 149.4 | 2.8 | 30.0   |
| Chloroform                     |       | 116.5 | 78.4 | 124.0 | 0.1 | 30.0   |
| Chloromethane                  |       | 114.7 | 23.8 | 166.5 | 2.9 | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 115.4 | 21.2 | 189.4 | 1.2 | 30.0   |
| 1,2-Dichlorobenzene            |       | 103.5 | 10.0 | 166.2 | 0.1 | 30.0   |
| 1,2-Dichloroethane             |       | 117.6 | 76.0 | 126.3 | 1.0 | 30.0   |
| 1,2-Dichloropropane            |       | 118.1 | 78.6 | 126.4 | 0.6 | 30.0   |
| 1,3-Dichlorobenzene            |       | 101.4 | 77.0 | 131.3 | 1.1 | 30.0   |
| 1,4-Dichlorobenzene            |       | 103.0 | 20.7 | 137.7 | 0.8 | 30.0   |
| cis-1,2-Dichloroethene         |       | 116.3 | 76.6 | 122.1 | 1.3 | 30.0   |
| Dibromochloromethane           |       | 118.0 | 74.6 | 127.2 | 0.5 | 30.0   |
| Dichlorodifluoromethane        |       | 93.5  | 10.0 | 222.8 | 7.0 | 30.0   |
| trans-1,2-Dichloroethene       |       | 110.2 | 73.6 | 129.3 | 0.3 | 30.0   |
| Ethylbenzene                   |       | 105.7 | 79.5 | 129.1 | 1.1 | 30.0   |
| 2-Hexanone                     |       | 136.9 | 55.4 | 136.9 | 2.3 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 124.8 | 71.6 | 125.2 | 1.3 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 115.2 | 73.2 | 122.4 | 1.8 | 30.0   |
| Methylene chloride             |       | 115.4 | 73.3 | 121.1 | 2.1 | 30.0   |
| Styrene                        |       | 112.5 | 69.5 | 126.7 | 1.2 | 30.0   |
| 1,1,1-Trichloroethane          |       | 109.1 | 79.4 | 130.9 | 1.5 | 30.0   |
| 1,1,2-Trichloroethane          |       | 123.0 | 78.7 | 123.1 | 0.6 | 30.0   |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220927W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 220927B3.LCSDW27B, Parent Sample ID: 220927B3.LCSW27B

Run in Batch: 220927B3, Run Date: 09/27/2022 22:13, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 94.6  | 27.4 | 143.4 | 0.7 | 30.0   |
| Tetrachloroethene                     |       | 114.0 | 74.5 | 124.5 | 1.2 | 30.0   |
| Toluene                               |       | 109.5 | 79.8 | 124.5 | 1.4 | 30.0   |
| Trichloroethene                       |       | 111.0 | 79.7 | 124.2 | 0.8 | 30.0   |
| Trichlorofluoromethane                |       | 113.1 | 59.7 | 151.8 | 2.2 | 30.0   |
| Vinyl chloride                        |       | 105.2 | 43.5 | 149.1 | 4.7 | 30.0   |
| o-Xylene                              |       | 108.5 | 80.2 | 131.0 | 0.6 | 30.0   |
| p,m-Xylene                            |       | 106.6 | 79.4 | 132.2 | 1.9 | 30.0   |
| Isopropylbenzene                      |       | 104.6 | 74.4 | 121.5 | 2.1 | 30.0   |
| Cyclohexane                           |       | 97.5  | 10.0 | 169.1 | 3.2 | 30.0   |
| 1,1-Dichloroethane                    |       | 111.7 | 71.5 | 126.2 | 0.9 | 30.0   |
| 1,1-Dichloroethene                    |       | 104.7 | 69.6 | 139.4 | 2.9 | 30.0   |
| Methyl Acetate                        | *     | 132.3 | 64.7 | 125.4 | 1.4 | 30.0   |
| Methyl cyclohexane                    |       | 87.4  | 76.6 | 131.3 | 3.9 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 101.0 | 75.1 | 135.9 | 2.8 | 30.0   |
| 1,2-Dibromoethane                     |       | 115.6 | 70.3 | 133.7 | 1.1 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 118.7 | 79.8 | 126.3 | 2.1 | 30.0   |
| cis-1,3-Dichloropropene               |       | 120.6 | 79.8 | 129.9 | 0.5 | 30.0   |
| trans-1,3-Dichloropropene             |       | 123.3 | 74.0 | 131.3 | 0.5 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220928W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 220928A9.BLKW28A

Run in Batch: 220928A9, Run Date: 09/28/2022 13:21, Prep Date: 09/28/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

**Organics - Volatiles, Prep Batch ID: VF220928W1 (continued)**

Surrogates: Yes, QC Types: BLK/LCS/LCSD

**Blank (BLK) (continued)**

Lab Sample ID: 220928A9.BLKW28A

Run in Batch: 220928A9, Run Date: 09/28/2022 13:21, Prep Date: 09/28/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

**Laboratory Control Sample (LCS)**

Lab Sample ID: 220928A9.LCSW28A

Run in Batch: 220928A9, Run Date: 09/28/2022 11:25, Prep Date: 09/28/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 89.3  | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 96.4  | 44.0 | 134.4 |
| Benzene                        |       | 102.0 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 106.5 | 80.4 | 128.2 |
| Bromoform                      |       | 112.4 | 69.4 | 128.0 |
| Bromomethane                   |       | 101.4 | 56.8 | 151.3 |
| Carbon disulfide               |       | 93.6  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 98.9  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 107.0 | 79.2 | 122.7 |
| Chloroethane                   |       | 94.0  | 53.4 | 149.4 |
| Chloroform                     |       | 101.6 | 78.4 | 124.0 |
| Chloromethane                  |       | 101.0 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 115.2 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 108.9 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 101.2 | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 103.6 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 106.9 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 106.6 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 100.9 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 112.0 | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 92.3  | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 97.8  | 73.6 | 129.3 |
| Ethylbenzene                   |       | 105.6 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 102.5 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 102.7 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 102.5 | 73.2 | 122.4 |
| Methylene chloride             |       | 103.5 | 73.3 | 121.1 |
| Styrene                        |       | 107.9 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 97.0  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 103.9 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 110.0 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 101.0 | 74.5 | 124.5 |
| Toluene                        |       | 102.4 | 79.8 | 124.5 |
| Trichloroethene                |       | 101.6 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 100.0 | 59.7 | 151.8 |
| Vinyl chloride                 |       | 100.8 | 43.5 | 149.1 |
| o-Xylene                       |       | 106.4 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 106.0 | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220928W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 220928A9.LCSW28A

Run in Batch: 220928A9, Run Date: 09/28/2022 11:25, Prep Date: 09/28/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 104.3 | 74.4 | 121.5 |
| Cyclohexane                           |       | 90.8  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 99.6  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 94.7  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 100.9 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 96.3  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 95.8  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 110.0 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 108.0 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 108.1 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 108.0 | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220928A9.LCSDW28A, Parent Sample ID: 220928A9.LCSW28A

Run in Batch: 220928A9, Run Date: 09/28/2022 11:45, Prep Date: 09/28/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------------------------|-------|-------|------|-------|-----|--------|
| Acetone                        |       | 84.4  | 29.9 | 161.5 | 5.7 | 30.0   |
| 2-Butanone (MEK)               |       | 93.8  | 44.0 | 134.4 | 2.8 | 30.0   |
| Benzene                        |       | 98.9  | 79.9 | 124.9 | 3.1 | 30.0   |
| Bromodichloromethane           |       | 103.0 | 80.4 | 128.2 | 3.4 | 30.0   |
| Bromoform                      |       | 110.3 | 69.4 | 128.0 | 1.9 | 30.0   |
| Bromomethane                   |       | 99.1  | 56.8 | 151.3 | 2.4 | 30.0   |
| Carbon disulfide               |       | 90.0  | 63.8 | 137.4 | 3.9 | 30.0   |
| Carbon tetrachloride           |       | 94.4  | 72.6 | 133.0 | 4.6 | 30.0   |
| Chlorobenzene                  |       | 104.5 | 79.2 | 122.7 | 2.3 | 30.0   |
| Chloroethane                   |       | 88.9  | 53.4 | 149.4 | 5.6 | 30.0   |
| Chloroform                     |       | 99.0  | 78.4 | 124.0 | 2.6 | 30.0   |
| Chloromethane                  |       | 95.6  | 23.8 | 166.5 | 5.5 | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 112.3 | 21.2 | 189.4 | 2.6 | 30.0   |
| 1,2-Dichlorobenzene            |       | 105.9 | 10.0 | 166.2 | 2.8 | 30.0   |
| 1,2-Dichloroethane             |       | 98.4  | 76.0 | 126.3 | 2.8 | 30.0   |
| 1,2-Dichloropropane            |       | 98.1  | 78.6 | 126.4 | 5.4 | 30.0   |
| 1,3-Dichlorobenzene            |       | 104.1 | 77.0 | 131.3 | 2.7 | 30.0   |
| 1,4-Dichlorobenzene            |       | 104.2 | 20.7 | 137.7 | 2.2 | 30.0   |
| cis-1,2-Dichloroethene         |       | 99.2  | 76.6 | 122.1 | 1.7 | 30.0   |
| Dibromochloromethane           |       | 111.0 | 74.6 | 127.2 | 0.9 | 30.0   |
| Dichlorodifluoromethane        |       | 88.4  | 10.0 | 222.8 | 4.3 | 30.0   |
| trans-1,2-Dichloroethene       |       | 93.8  | 73.6 | 129.3 | 4.2 | 30.0   |
| Ethylbenzene                   |       | 104.0 | 79.5 | 129.1 | 1.5 | 30.0   |
| 2-Hexanone                     |       | 94.1  | 55.4 | 136.9 | 8.5 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 99.4  | 71.6 | 125.2 | 3.2 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 100.3 | 73.2 | 122.4 | 2.2 | 30.0   |
| Methylene chloride             |       | 100.5 | 73.3 | 121.1 | 2.9 | 30.0   |
| Styrene                        |       | 105.6 | 69.5 | 126.7 | 2.2 | 30.0   |
| 1,1,1-Trichloroethane          |       | 93.2  | 79.4 | 130.9 | 4.0 | 30.0   |
| 1,1,2-Trichloroethane          |       | 100.1 | 78.7 | 123.1 | 3.7 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220928W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 220928A9.LCSDW28A, Parent Sample ID: 220928A9.LCSW28A

Run in Batch: 220928A9, Run Date: 09/28/2022 11:45, Prep Date: 09/28/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 111.3 | 27.4 | 143.4 | 1.2 | 30.0   |
| Tetrachloroethene                     |       | 97.1  | 74.5 | 124.5 | 4.0 | 30.0   |
| Toluene                               |       | 97.7  | 79.8 | 124.5 | 4.7 | 30.0   |
| Trichloroethene                       |       | 97.1  | 79.7 | 124.2 | 4.5 | 30.0   |
| Trichlorofluoromethane                |       | 95.7  | 59.7 | 151.8 | 4.4 | 30.0   |
| Vinyl chloride                        |       | 97.4  | 43.5 | 149.1 | 3.4 | 30.0   |
| o-Xylene                              |       | 104.8 | 80.2 | 131.0 | 1.5 | 30.0   |
| p,m-Xylene                            |       | 102.7 | 79.4 | 132.2 | 3.1 | 30.0   |
| Isopropylbenzene                      |       | 102.3 | 74.4 | 121.5 | 1.9 | 30.0   |
| Cyclohexane                           |       | 87.7  | 10.0 | 169.1 | 3.4 | 30.0   |
| 1,1-Dichloroethane                    |       | 97.4  | 71.5 | 126.2 | 2.2 | 30.0   |
| 1,1-Dichloroethene                    |       | 89.6  | 69.6 | 139.4 | 5.6 | 30.0   |
| Methyl Acetate                        |       | 97.6  | 64.7 | 125.4 | 3.4 | 30.0   |
| Methyl cyclohexane                    |       | 94.5  | 76.6 | 131.3 | 1.9 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 91.2  | 75.1 | 135.9 | 5.0 | 30.0   |
| 1,2-Dibromoethane                     |       | 108.1 | 70.3 | 133.7 | 1.8 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 105.6 | 79.8 | 126.3 | 2.3 | 30.0   |
| cis-1,3-Dichloropropene               |       | 104.8 | 79.8 | 129.9 | 3.1 | 30.0   |
| trans-1,3-Dichloropropene             |       | 104.9 | 74.0 | 131.3 | 2.9 | 30.0   |



## REPORT TO

|                                              |  |             |                   |
|----------------------------------------------|--|-------------|-------------------|
| CONTACT NAME<br>Tiffany Linder               |  |             |                   |
| COMPANY<br>Arcadis                           |  |             |                   |
| ADDRESS<br>28550 Cabot Dr #500               |  |             |                   |
| CITY<br>Novi                                 |  | STATE<br>MI | ZIP CODE<br>48317 |
| PHONE NO.<br>248 994 2240                    |  | CELL NO.    | P.O. NO.          |
| E-MAIL ADDRESS<br>Tiffany.Linder@arcadis.com |  | QUOTE NO.   |                   |

## CHAIN OF CUSTODY RECORD

|              |                |                               |          |
|--------------|----------------|-------------------------------|----------|
| CONTACT NAME |                | <input type="checkbox"/> SAME |          |
| COMPANY      |                |                               |          |
| ADDRESS      |                |                               |          |
| CITY         |                | STATE                         | ZIP CODE |
| PHONE NO.    | E-MAIL ADDRESS |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                             |                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| PROJECT NO./NAME<br><b>30112891.00005 / Racer PNC</b>                                                                                                                                                                       | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>Sommer Guy / Sommer Guy</b> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                              |                                                                       |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input type="checkbox"/> EDD <input type="checkbox"/> 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 & Preservatives

[illegible]

|                        |                     |                                             |         |       |
|------------------------|---------------------|---------------------------------------------|---------|-------|
| RELINQUISHED BY:       | <i>Sammer Long</i>  | <input checked="" type="checkbox"/> Sampler | DATE    | TIME  |
| SIGNATURE/ORGANIZATION | <i>Arcadis</i>      |                                             | 9/22/22 | 10:30 |
| RECEIVED BY:           | <i>Sammer</i>       |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                     |                                             | 9/22/22 | 10:30 |
| RELINQUISHED BY:       | <i>Sammer</i>       |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                     |                                             | 9/22/22 | 10:30 |
| RECEIVED BY:           | <i>M. Calabrese</i> |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                     |                                             | 9/22/22 | 10:00 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.5</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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

Rev. 1.26.22



# Analytical Laboratory Report

Report ID: S40669.01(01)  
Generated on 09/29/2022

## 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, Ian Drost

## 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): S40669.01-S40669.05  
Project: Racer PNC / 30112891.00005  
Collected Date(s): 09/22/2022  
Submitted Date/Time: 09/23/2022 16:00  
Sampled by: LF  
P.O. #: 30112891.00005

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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 |
| SW8260B - SIM | SW 846 Method 8260B Revision 2 December 1996 SIMs                      |





# Analytical Laboratory Report

**Sample Summary (5 samples)**

| Sample ID | Sample Tag         | Matrix      | Collected Date/Time |
|-----------|--------------------|-------------|---------------------|
| S40669.01 | MWF16-05_GW-092222 | Groundwater | 09/22/22 09:10      |
| S40669.02 | MWF16-18_GW-092222 | Groundwater | 09/22/22 10:17      |
| S40669.03 | MWF16-06_GW-092222 | Groundwater | 09/22/22 12:07      |
| S40669.04 | TW-12-22_GW-092222 | Groundwater | 09/22/22 13:39      |
| S40669.05 | Trip Blank         | Water       | 09/22/22 00:01      |



# Analytical Laboratory Report

Lab Sample ID: S40669.01

Sample Tag: MWF16-05\_GW-092222

Collected Date/Time: 09/22/2022 09:10

Matrix: Groundwater

COC Reference: 157357

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.2               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/28/22 12:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 18:20, Analyst: BML**

| Parameter                      | Result       | RL    | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|-------|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 1,000 |     | ug/L  | 20       | 67-64-1   | Y     |
| 2-Butanone (MEK)               | Not detected | 500   |     | ug/L  | 20       | 78-93-3   | Y     |
| Benzene                        | Not detected | 20    |     | ug/L  | 20       | 71-43-2   | Y     |
| Bromodichloromethane           | Not detected | 20    |     | ug/L  | 20       | 75-27-4   | Y     |
| Bromoform                      | Not detected | 20    |     | ug/L  | 20       | 75-25-2   | Y     |
| Bromomethane                   | Not detected | 100   |     | ug/L  | 20       | 74-83-9   | Y     |
| Carbon disulfide               | Not detected | 100   |     | ug/L  | 20       | 75-15-0   | Y     |
| Carbon tetrachloride           | Not detected | 20    |     | ug/L  | 20       | 56-23-5   | Y     |
| Chlorobenzene                  | Not detected | 20    |     | ug/L  | 20       | 108-90-7  | Y     |
| Chloroethane                   | Not detected | 100   |     | ug/L  | 20       | 75-00-3   | Y     |
| Chloroform                     | Not detected | 20    |     | ug/L  | 20       | 67-66-3   | Y     |
| Chloromethane                  | Not detected | 100   |     | ug/L  | 20       | 74-87-3   | Y     |
| 1,2-Dibromo-3-chloropropane    | Not detected | 100   |     | ug/L  | 20       | 96-12-8   | Y     |
| 1,2-Dichlorobenzene            | Not detected | 20    |     | ug/L  | 20       | 95-50-1   | Y     |
| 1,2-Dichloroethane             | Not detected | 20    |     | ug/L  | 20       | 107-06-2  | Y     |
| 1,2-Dichloropropane            | Not detected | 20    |     | ug/L  | 20       | 78-87-5   | Y     |
| 1,3-Dichlorobenzene            | Not detected | 20    |     | ug/L  | 20       | 541-73-1  | Y     |
| 1,4-Dichlorobenzene            | Not detected | 20    |     | ug/L  | 20       | 106-46-7  | Y     |
| cis-1,2-Dichloroethene         | Not detected | 20    |     | ug/L  | 20       | 156-59-2  | Y     |
| Dibromochloromethane           | Not detected | 100   |     | ug/L  | 20       | 124-48-1  | Y     |
| Dichlorodifluoromethane        | Not detected | 100   |     | ug/L  | 20       | 75-71-8   | Y     |
| trans-1,2-Dichloroethene       | Not detected | 20    |     | ug/L  | 20       | 156-60-5  | Y     |
| Ethylbenzene                   | Not detected | 20    |     | ug/L  | 20       | 100-41-4  | Y     |
| 2-Hexanone                     | Not detected | 1,000 |     | ug/L  | 20       | 591-78-6  | Y     |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 1,000 |     | ug/L  | 20       | 108-10-1  | Y     |
| tert-Methyl butyl ether (MTBE) | Not detected | 100   |     | ug/L  | 20       | 1634-04-4 | Y     |
| Methylene chloride             | Not detected | 100   |     | ug/L  | 20       | 75-09-2   | Y     |
| Styrene                        | Not detected | 20    |     | ug/L  | 20       | 100-42-5  | Y     |
| 1,1,1-Trichloroethane          | Not detected | 20    |     | ug/L  | 20       | 71-55-6   | Y     |
| 1,1,2-Trichloroethane          | Not detected | 20    |     | ug/L  | 20       | 79-00-5   | Y     |
| 1,2,4-Trichlorobenzene         | Not detected | 100   |     | ug/L  | 20       | 120-82-1  | Y     |
| Tetrachloroethene              | 680          | 20    |     | ug/L  | 20       | 127-18-4  | Y     |
| Toluene                        | Not detected | 20    |     | ug/L  | 20       | 108-88-3  | Y     |
| Trichloroethene                | 30           | 20    |     | ug/L  | 20       | 79-01-6   | Y     |
| Trichlorofluoromethane         | Not detected | 20    |     | ug/L  | 20       | 75-69-4   | Y     |
| Vinyl chloride                 | Not detected | 20    |     | ug/L  | 20       | 75-01-4   | Y     |

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S40669.01 (continued)

Sample Tag: MWF16-05\_GW-092222

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 18:20, Analyst: BML (continued)**

| Parameter                             | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|-----|-----|-------|----------|------------|-------|
| o-Xylene                              | Not detected | 20  |     | ug/L  | 20       | 95-47-6    | Y     |
| p,m-Xylene*                           | Not detected | 40  |     | ug/L  | 20       |            | Y     |
| Isopropylbenzene                      | Not detected | 20  |     | ug/L  | 20       | 98-82-8    | Y     |
| Cyclohexane                           | Not detected | 20  |     | ug/L  | 20       | 110-82-7   | Y     |
| 1,1-Dichloroethane                    | Not detected | 20  |     | ug/L  | 20       | 75-34-3    | Y     |
| 1,1-Dichloroethene                    | Not detected | 20  |     | ug/L  | 20       | 75-35-4    | Y     |
| Methyl Acetate                        | Not detected | 200 |     | ug/L  | 20       | 79-20-9    | Y     |
| Methyl cyclohexane                    | Not detected | 20  |     | ug/L  | 20       | 108-87-2   | Y     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 20  |     | ug/L  | 20       | 76-13-1    | Y     |
| 1,2-Dibromoethane                     | Not detected | 20  |     | ug/L  | 20       | 106-93-4   | Y     |
| 1,1,2,2-Tetrachloroethane             | Not detected | 20  |     | ug/L  | 20       | 79-34-5    | Y     |
| cis-1,3-Dichloropropene               | Not detected | 20  |     | ug/L  | 20       | 10061-01-5 | Y     |
| trans-1,3-Dichloropropene             | Not detected | 20  |     | ug/L  | 20       | 10061-02-6 | Y     |

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S40669.02

Sample Tag: MWF16-18\_GW-092222

Collected Date/Time: 09/22/2022 10:17

Matrix: Groundwater

COC Reference: 157357

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.2               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/28/22 12:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 18:39, Analyst: BML**

| Parameter                      | Result       | RL  | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|-----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 500 |     | ug/L  | 10       | 67-64-1   | Y     |
| 2-Butanone (MEK)               | Not detected | 250 |     | ug/L  | 10       | 78-93-3   | Y     |
| Benzene                        | Not detected | 10  |     | ug/L  | 10       | 71-43-2   | Y     |
| Bromodichloromethane           | Not detected | 10  |     | ug/L  | 10       | 75-27-4   | Y     |
| Bromoform                      | Not detected | 10  |     | ug/L  | 10       | 75-25-2   | Y     |
| Bromomethane                   | Not detected | 50  |     | ug/L  | 10       | 74-83-9   | Y     |
| Carbon disulfide               | Not detected | 50  |     | ug/L  | 10       | 75-15-0   | Y     |
| Carbon tetrachloride           | Not detected | 10  |     | ug/L  | 10       | 56-23-5   | Y     |
| Chlorobenzene                  | Not detected | 10  |     | ug/L  | 10       | 108-90-7  | Y     |
| Chloroethane                   | Not detected | 50  |     | ug/L  | 10       | 75-00-3   | Y     |
| Chloroform                     | Not detected | 10  |     | ug/L  | 10       | 67-66-3   | Y     |
| Chloromethane                  | Not detected | 50  |     | ug/L  | 10       | 74-87-3   | Y     |
| 1,2-Dibromo-3-chloropropane    | Not detected | 50  |     | ug/L  | 10       | 96-12-8   | Y     |
| 1,2-Dichlorobenzene            | Not detected | 10  |     | ug/L  | 10       | 95-50-1   | Y     |
| 1,2-Dichloroethane             | Not detected | 10  |     | ug/L  | 10       | 107-06-2  | Y     |
| 1,2-Dichloropropane            | Not detected | 10  |     | ug/L  | 10       | 78-87-5   | 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     |
| cis-1,2-Dichloroethene         | 100          | 10  |     | ug/L  | 10       | 156-59-2  | Y     |
| Dibromochloromethane           | Not detected | 50  |     | ug/L  | 10       | 124-48-1  | Y     |
| Dichlorodifluoromethane        | Not detected | 50  |     | ug/L  | 10       | 75-71-8   | Y     |
| trans-1,2-Dichloroethene       | Not detected | 10  |     | ug/L  | 10       | 156-60-5  | Y     |
| Ethylbenzene                   | Not detected | 10  |     | ug/L  | 10       | 100-41-4  | Y     |
| 2-Hexanone                     | Not detected | 500 |     | ug/L  | 10       | 591-78-6  | Y     |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 500 |     | ug/L  | 10       | 108-10-1  | Y     |
| tert-Methyl butyl ether (MTBE) | Not detected | 50  |     | ug/L  | 10       | 1634-04-4 | Y     |
| Methylene chloride             | Not detected | 50  |     | ug/L  | 10       | 75-09-2   | Y     |
| Styrene                        | Not detected | 10  |     | ug/L  | 10       | 100-42-5  | Y     |
| 1,1,1-Trichloroethane          | Not detected | 10  |     | ug/L  | 10       | 71-55-6   | Y     |
| 1,1,2-Trichloroethane          | Not detected | 10  |     | ug/L  | 10       | 79-00-5   | Y     |
| 1,2,4-Trichlorobenzene         | Not detected | 50  |     | ug/L  | 10       | 120-82-1  | Y     |
| Tetrachloroethene              | 1,350        | 10  |     | ug/L  | 10       | 127-18-4  | Y     |
| Toluene                        | Not detected | 10  |     | ug/L  | 10       | 108-88-3  | Y     |
| Trichloroethene                | 20           | 10  |     | ug/L  | 10       | 79-01-6   | Y     |
| Trichlorofluoromethane         | Not detected | 10  |     | ug/L  | 10       | 75-69-4   | Y     |
| Vinyl chloride                 | Not detected | 10  |     | ug/L  | 10       | 75-01-4   | Y     |

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S40669.02 (continued)  
Sample Tag: MWF16-18\_GW-092222

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 18:39, Analyst: BML (continued)**

| Parameter                             | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|-----|-----|-------|----------|------------|-------|
| o-Xylene                              | Not detected | 10  |     | ug/L  | 10       | 95-47-6    | Y     |
| p,m-Xylene*                           | Not detected | 20  |     | ug/L  | 10       |            | Y     |
| Isopropylbenzene                      | Not detected | 10  |     | ug/L  | 10       | 98-82-8    | Y     |
| Cyclohexane                           | Not detected | 10  |     | ug/L  | 10       | 110-82-7   | Y     |
| 1,1-Dichloroethane                    | Not detected | 10  |     | ug/L  | 10       | 75-34-3    | Y     |
| 1,1-Dichloroethene                    | Not detected | 10  |     | ug/L  | 10       | 75-35-4    | Y     |
| Methyl Acetate                        | Not detected | 100 |     | ug/L  | 10       | 79-20-9    | Y     |
| Methyl cyclohexane                    | Not detected | 10  |     | ug/L  | 10       | 108-87-2   | Y     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 10  |     | ug/L  | 10       | 76-13-1    | Y     |
| 1,2-Dibromoethane                     | Not detected | 10  |     | ug/L  | 10       | 106-93-4   | Y     |
| 1,1,2,2-Tetrachloroethane             | Not detected | 10  |     | ug/L  | 10       | 79-34-5    | Y     |
| cis-1,3-Dichloropropene               | Not detected | 10  |     | ug/L  | 10       | 10061-01-5 | Y     |
| trans-1,3-Dichloropropene             | Not detected | 10  |     | ug/L  | 10       | 10061-02-6 | Y     |

Y-Elevated reporting limit due to high target concentration





# Analytical Laboratory Report

Lab Sample ID: S40669.03

Sample Tag: MWVF16-06\_GW-092222

Collected Date/Time: 09/22/2022 12:07

Matrix: Groundwater

COC Reference: 157357

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.2               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/27/22 10:00 | BML     |       |

## Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/26/22 22:29, Analyst: KAG

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 8      | 1  |     | ug/L  | 1        | 123-91-1 |       |

## Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 18:58, Analyst: BML

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | 9            | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | 15           | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | 2            | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | 29           | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | 135          | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | 63           | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |



# Analytical Laboratory Report

Lab Sample ID: S40669.03 (continued)  
Sample Tag: MWF16-06\_GW-092222

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 18:58, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| Trichloroethene                       | 9            | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | 1            | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | 95           | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | 10           | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40669.04

Sample Tag: TW-12-22\_GW-092222

Collected Date/Time: 09/22/2022 13:39

Matrix: Groundwater

COC Reference: 157357

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.2               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/28/22 12:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 19:17, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | 7            | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | 57           | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | 3            | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | 6            | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | 6            | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40669.04 (continued)  
Sample Tag: TW-12-22\_GW-092222

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 19:17, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | 10           | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40669.05

Sample Tag: Trip Blank

Collected Date/Time: 09/22/2022 00:01

Matrix: Water

COC Reference: 157357

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 3.2               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/28/22 12:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 15:28, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |





# Analytical Laboratory Report

Lab Sample ID: S40669.05 (continued)

Sample Tag: Trip Blank

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/27/22 15:28, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40669

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: Racer PNC / 30112891.00005

Submitted:09/23/2022 16:00 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.2 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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<br>Tiffany Linder                                        |  |               |                            |
| COMPANY<br>Arcadis                                                    |  |               |                            |
| ADDRESS<br>28550 Cabot Dr # 500                                       |  |               |                            |
| CITY<br>Novi                                                          |  | STATE<br>MI   | ZIP CODE<br>48377          |
| PHONE NO.<br>—                                                        |  | CELL NO.<br>— | P.O. NO.<br>30112891.00005 |
| E-MAIL ADDRESS<br>TIFFANY.LINDER@ARCADIS.COM ALEXIS.CRISP@ARCADIS.COM |  |               | QUOTE NO.<br>—             |

## CHAIN OF CUSTODY RECORD

|              |                |                               |          |
|--------------|----------------|-------------------------------|----------|
| CONTACT NAME |                | <input type="checkbox"/> SAME |          |
| COMPANY      |                |                               |          |
| ADDRESS      |                |                               |          |
| CITY         |                | STATE                         | ZIP CODE |
| PHONE NO.    | E-MAIL ADDRESS |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                                             |                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| PROJECT NO./NAME<br>Lower INC 30112391.00005                                                                                                                                                                                                | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br>Lena Flexera / |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER                                         |                                                       |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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]

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

## Certifications

☐ OHIO VAP    ☐ Drinking Water☐ DoD ☐ NPDES

## Project Locations

☐ Detroit ☐ New York☐ Other \_\_\_\_\_

Special Instructions

|                        |                   |                                             |          |       |
|------------------------|-------------------|---------------------------------------------|----------|-------|
| RELINQUISHED BY:       | Lehcia Ferreira   | <input checked="" type="checkbox"/> Sampler | DATE     | TIME  |
| SIGNATURE/ORGANIZATION |                   |                                             | 09/27/22 | 15:20 |
| RECEIVED BY:           | Mori Cold storage |                                             | DATE     | TIME  |
| SIGNATURE/ORGANIZATION |                   |                                             | 09/22/22 | 15:20 |
| RELINQUISHED BY:       | Sommer Guy        |                                             | DATE     | TIME  |
| SIGNATURE/ORGANIZATION |                   |                                             | 9/23/22  |       |
| RECEIVED BY:           | Henriette Muli    |                                             | DATE     | TIME  |
| SIGNATURE/ORGANIZATION |                   |                                             | 9/27/22  | 13:00 |

|                  |                                                                         |                        |        |                  |  |       |  |
|------------------|-------------------------------------------------------------------------|------------------------|--------|------------------|--|-------|--|
| RELINQUISHED BY: |                                                                         | SIGNATURE/ORGANIZATION |        | DATE             |  | TIME  |  |
|                  |                                                                         | <i>[Signature]</i>     |        | 9/23/22          |  | 16:29 |  |
| RECEIVED BY:     |                                                                         | SIGNATURE/ORGANIZATION |        | DATE             |  | TIME  |  |
|                  |                                                                         | <i>[Signature]</i>     |        | 9/23/22          |  | 16:29 |  |
| SEAL NO.         | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS               | NOTES: | TEMP. ON ARRIVAL |  |       |  |
| SEAL NO.         | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS               |        | 3.2              |  |       |  |

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



# Quality Control Report

Report ID: QC-S40669-01  
Generated on 09/29/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S40669.01-S40669.05  
Project: Racer PNC / 30112891.00005  
Submitted Date/Time: 09/23/2022 16:00  
Sampled by: LF  
P.O. #: 30112891.00005

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-6)  
Prep Batch Summary (Page 7)  
Surrogates per Lab Sample (Pages 8-12)  
Surrogates per QC Sample (Pages 13-14)  
Batch QC Results (Pages 15-19)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S40669.01**

Sample Tag: MWF16-05\_GW-092222

Collected Date/Time: 09/22/2022 09:10

Matrix: Groundwater

COC Reference: 157357

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 18:20 | 220927A9 | VF220927W3 | Yes  | BLK/LCS/LCSD |



## QC Report - Analysis Summary

**Lab Sample ID: S40669.02**

Sample Tag: MWF16-18\_GW-092222

Collected Date/Time: 09/22/2022 10:17

Matrix: Groundwater

COC Reference: 157357

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 18:39 | 220927A9 | VF220927W3 | Yes  | BLK/LCS/LCSD |

## QC Report - Analysis Summary

**Lab Sample ID: S40669.03**

Sample Tag: MWF16-06\_GW-092222

Collected Date/Time: 09/22/2022 12:07

Matrix: Groundwater

COC Reference: 157357

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| 1,4-Dioxane                 | SW8260B - SIM | 09/26/22 22:29 | 220926A9 | VS220926W1 | Yes  | BLK/LCS/LCSD |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 18:58 | 220927A9 | VF220927W3 | Yes  | BLK/LCS/LCSD |

## QC Report - Analysis Summary

**Lab Sample ID: S40669.04**

Sample Tag: TW-12-22\_GW-092222

Collected Date/Time: 09/22/2022 13:39

Matrix: Groundwater

COC Reference: 157357

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 19:17 | 220927A9 | VF220927W3 | Yes  | BLK/LCS/LCSD |

## QC Report - Analysis Summary

**Lab Sample ID: S40669.05**

Sample Tag: Trip Blank

Collected Date/Time: 09/22/2022 00:01

Matrix: Water

COC Reference: 157357

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 15:28 | 220927A9 | VF220927W3 | Yes  | BLK/LCS/LCSD |

## QC Report - Prep Batch Summary

### Organics - Volatiles, Prep Batch ID: VF220927W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40669.01 | Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 18:20 | 220927A9 |
| S40669.02 | Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 18:39 | 220927A9 |
| S40669.03 | Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 18:58 | 220927A9 |
| S40669.04 | Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 19:17 | 220927A9 |
| S40669.05 | Volatile Organics - Arcadis | SW5030C/8260C | 09/27/22 15:28 | 220927A9 |

### Organics - Volatiles, Prep Batch ID: VS220926W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis    | Method        | Run Date/Time  | Batch ID |
|-----------|-------------|---------------|----------------|----------|
| S40669.03 | 1,4-Dioxane | SW8260B - SIM | 09/26/22 22:29 | 220926A9 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40669.01**

Sample Tag: MWF16-05\_GW-092222

Collected Date/Time: 09/22/2022 09:10

Matrix: Groundwater

COC Reference: 157357

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220927A9, Run Date: 09/27/2022 18:20, Matrix: WW, Dilution: 20

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>102.2</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>106.4</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>101.8</b> | 89.0 | 112.0 |



## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40669.02**

Sample Tag: MWF16-18\_GW-092222

Collected Date/Time: 09/22/2022 10:17

Matrix: Groundwater

COC Reference: 157357

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220927A9, Run Date: 09/27/2022 18:39, Matrix: WW, Dilution: 10

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>104.0</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>107.3</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>101.0</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40669.03**

Sample Tag: MWF16-06\_GW-092222

Collected Date/Time: 09/22/2022 12:07

Matrix: Groundwater

COC Reference: 157357

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220927A9, Run Date: 09/27/2022 18:58, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>104.0</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>105.8</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.4</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40669.04**

Sample Tag: TW-12-22\_GW-092222

Collected Date/Time: 09/22/2022 13:39

Matrix: Groundwater

COC Reference: 157357

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220927A9, Run Date: 09/27/2022 19:17, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>102.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>103.8</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.0</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40669.05

Sample Tag: Trip Blank

Collected Date/Time: 09/22/2022 00:01

Matrix: Water

COC Reference: 157357

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220927A9, Run Date: 09/27/2022 15:28, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.1 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 107.4 | 72.0 | 125.0 |
| Toluene-D8            |       | 101.2 | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF220927W3

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 220927A9.BLKW27A

Run in Batch: 220927A9, Run Date: 09/27/2022 14:11, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec | LCL  | UCL   |
|-----------------------|-------|------|------|-------|
| 4-Bromofluorobenzene  |       | 99.3 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 95.1 | 72.0 | 125.0 |
| Toluene-D8            |       | 92.9 | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 220927A9.LCSW27A

Run in Batch: 220927A9, Run Date: 09/27/2022 12:54, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 106.8 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 104.2 | 72.0 | 125.0 |
| Toluene-D8            |       | 102.6 | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220927A9.LCSDW27A, Parent Sample ID: 220927A9.LCSW27A

Run in Batch: 220927A9, Run Date: 09/27/2022 13:13, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 107.4 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 100.1 | 72.0 | 125.0 |
| Toluene-D8            |       | 102.9 | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VS220926W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 220926A9.BLKW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 19:39, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 220926A9.LCSW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 18:37, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220926A9.LCSDW26A, Parent Sample ID: 220926A9.LCSW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 18:58, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220927W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 220927A9.BLKW27A

Run in Batch: 220927A9, Run Date: 09/27/2022 14:11, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220927W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Blank (BLK) (continued)

Lab Sample ID: 220927A9.BLKW27A

Run in Batch: 220927A9, Run Date: 09/27/2022 14:11, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 220927A9.LCSW27A

Run in Batch: 220927A9, Run Date: 09/27/2022 12:54, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 92.2  | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 99.7  | 44.0 | 134.4 |
| Benzene                        |       | 100.3 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 105.0 | 80.4 | 128.2 |
| Bromoform                      |       | 114.6 | 69.4 | 128.0 |
| Bromomethane                   |       | 102.0 | 56.8 | 151.3 |
| Carbon disulfide               |       | 96.1  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 98.4  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 106.0 | 79.2 | 122.7 |
| Chloroethane                   |       | 93.3  | 53.4 | 149.4 |
| Chloroform                     |       | 100.2 | 78.4 | 124.0 |
| Chloromethane                  |       | 99.9  | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 114.8 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 105.8 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 100.3 | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 101.6 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 104.1 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 103.1 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 100.7 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 111.9 | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 100.0 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 97.1  | 73.6 | 129.3 |
| Ethylbenzene                   |       | 104.8 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 104.2 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 107.1 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 104.4 | 73.2 | 122.4 |
| Methylene chloride             |       | 102.5 | 73.3 | 121.1 |
| Styrene                        |       | 107.3 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 95.9  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 104.1 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 108.5 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 99.2  | 74.5 | 124.5 |
| Toluene                        |       | 100.1 | 79.8 | 124.5 |
| Trichloroethene                |       | 99.5  | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 102.8 | 59.7 | 151.8 |
| Vinyl chloride                 |       | 104.1 | 43.5 | 149.1 |
| o-Xylene                       |       | 105.3 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 103.4 | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220927W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 220927A9.LCSW27A

Run in Batch: 220927A9, Run Date: 09/27/2022 12:54, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 102.9 | 74.4 | 121.5 |
| Cyclohexane                           |       | 93.9  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 99.0  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 94.1  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 104.0 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 99.5  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 96.3  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 110.2 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 109.7 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 106.3 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 107.6 | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220927A9.LCSDW27A, Parent Sample ID: 220927A9.LCSW27A

Run in Batch: 220927A9, Run Date: 09/27/2022 13:13, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|--------------------------------|-------|-------|------|-------|------|--------|
| Acetone                        |       | 83.2  | 29.9 | 161.5 | 10.3 | 30.0   |
| 2-Butanone (MEK)               |       | 90.7  | 44.0 | 134.4 | 9.4  | 30.0   |
| Benzene                        |       | 97.1  | 79.9 | 124.9 | 3.2  | 30.0   |
| Bromodichloromethane           |       | 100.9 | 80.4 | 128.2 | 3.9  | 30.0   |
| Bromoform                      |       | 108.1 | 69.4 | 128.0 | 5.8  | 30.0   |
| Bromomethane                   |       | 96.8  | 56.8 | 151.3 | 5.2  | 30.0   |
| Carbon disulfide               |       | 90.5  | 63.8 | 137.4 | 6.0  | 30.0   |
| Carbon tetrachloride           |       | 96.0  | 72.6 | 133.0 | 2.5  | 30.0   |
| Chlorobenzene                  |       | 102.8 | 79.2 | 122.7 | 3.0  | 30.0   |
| Chloroethane                   |       | 90.2  | 53.4 | 149.4 | 3.4  | 30.0   |
| Chloroform                     |       | 95.5  | 78.4 | 124.0 | 4.8  | 30.0   |
| Chloromethane                  |       | 95.8  | 23.8 | 166.5 | 4.2  | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 109.7 | 21.2 | 189.4 | 4.6  | 30.0   |
| 1,2-Dichlorobenzene            |       | 102.5 | 10.0 | 166.2 | 3.1  | 30.0   |
| 1,2-Dichloroethane             |       | 96.1  | 76.0 | 126.3 | 4.2  | 30.0   |
| 1,2-Dichloropropane            |       | 98.4  | 78.6 | 126.4 | 3.2  | 30.0   |
| 1,3-Dichlorobenzene            |       | 100.4 | 77.0 | 131.3 | 3.6  | 30.0   |
| 1,4-Dichlorobenzene            |       | 100.1 | 20.7 | 137.7 | 3.0  | 30.0   |
| cis-1,2-Dichloroethene         |       | 94.4  | 76.6 | 122.1 | 6.5  | 30.0   |
| Dibromochloromethane           |       | 108.2 | 74.6 | 127.2 | 3.3  | 30.0   |
| Dichlorodifluoromethane        |       | 96.5  | 10.0 | 222.8 | 3.5  | 30.0   |
| trans-1,2-Dichloroethene       |       | 93.5  | 73.6 | 129.3 | 3.9  | 30.0   |
| Ethylbenzene                   |       | 101.0 | 79.5 | 129.1 | 3.7  | 30.0   |
| 2-Hexanone                     |       | 95.1  | 55.4 | 136.9 | 9.1  | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 98.2  | 71.6 | 125.2 | 8.7  | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 97.0  | 73.2 | 122.4 | 7.3  | 30.0   |
| Methylene chloride             |       | 97.5  | 73.3 | 121.1 | 5.0  | 30.0   |
| Styrene                        |       | 102.7 | 69.5 | 126.7 | 4.3  | 30.0   |
| 1,1,1-Trichloroethane          |       | 92.5  | 79.4 | 130.9 | 3.6  | 30.0   |
| 1,1,2-Trichloroethane          |       | 100.0 | 78.7 | 123.1 | 4.0  | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220927W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 220927A9.LCSDW27A, Parent Sample ID: 220927A9.LCSW27A

Run in Batch: 220927A9, Run Date: 09/27/2022 13:13, Prep Date: 09/27/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 106.3 | 27.4 | 143.4 | 2.1 | 30.0   |
| Tetrachloroethene                     |       | 97.5  | 74.5 | 124.5 | 1.7 | 30.0   |
| Toluene                               |       | 96.7  | 79.8 | 124.5 | 3.4 | 30.0   |
| Trichloroethene                       |       | 96.8  | 79.7 | 124.2 | 2.8 | 30.0   |
| Trichlorofluoromethane                |       | 98.6  | 59.7 | 151.8 | 4.2 | 30.0   |
| Vinyl chloride                        |       | 98.5  | 43.5 | 149.1 | 5.5 | 30.0   |
| o-Xylene                              |       | 102.4 | 80.2 | 131.0 | 2.8 | 30.0   |
| p,m-Xylene                            |       | 102.0 | 79.4 | 132.2 | 1.4 | 30.0   |
| Isopropylbenzene                      |       | 101.2 | 74.4 | 121.5 | 1.7 | 30.0   |
| Cyclohexane                           |       | 89.1  | 10.0 | 169.1 | 5.2 | 30.0   |
| 1,1-Dichloroethane                    |       | 94.6  | 71.5 | 126.2 | 4.6 | 30.0   |
| 1,1-Dichloroethene                    |       | 89.5  | 69.6 | 139.4 | 5.0 | 30.0   |
| Methyl Acetate                        |       | 95.0  | 64.7 | 125.4 | 9.1 | 30.0   |
| Methyl cyclohexane                    |       | 93.5  | 76.6 | 131.3 | 6.2 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 93.2  | 75.1 | 135.9 | 3.4 | 30.0   |
| 1,2-Dibromoethane                     |       | 107.4 | 70.3 | 133.7 | 2.6 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 104.4 | 79.8 | 126.3 | 4.9 | 30.0   |
| cis-1,3-Dichloropropene               |       | 102.0 | 79.8 | 129.9 | 4.1 | 30.0   |
| trans-1,3-Dichloropropene             |       | 103.0 | 74.0 | 131.3 | 4.3 | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VS220926W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 220926A9.BLKW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 19:39, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | Conc | RDL  | Units |
|-------------|-------|------|------|-------|
| 1,4-Dioxane | *     | 0.42 | 0.02 | ug/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 220926A9.LCSW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 18:37, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   |
|-------------|-------|-------|------|-------|
| 1,4-Dioxane |       | 88.3  | 70.0 | 130.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220926A9.LCSDW26A, Parent Sample ID: 220926A9.LCSW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 18:58, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-------------|-------|-------|------|-------|-----|--------|
| 1,4-Dioxane |       | 89.1  | 70.0 | 130.0 | 0.9 | 30.0   |

## REPORT TO

|                                                                       |  |               |                            |
|-----------------------------------------------------------------------|--|---------------|----------------------------|
| CONTACT NAME<br>Tiffany Linder                                        |  |               |                            |
| COMPANY<br>Arcadis                                                    |  |               |                            |
| ADDRESS<br>28550 Cabot Dr # 500                                       |  |               |                            |
| CITY<br>Novi                                                          |  |               | STATE<br>MI                |
|                                                                       |  |               | ZIP CODE<br>48377          |
| PHONE NO.<br>—                                                        |  | CELL NO.<br>— | P.O. NO.<br>30112891.00005 |
| E-MAIL ADDRESS<br>TIFFANY.LINDER@ARCADIS.COM ALEXIS.CRISP@ARCADIS.COM |  |               | QUOTE NO.<br>—             |

## CHAIN OF CUSTODY RECORD

|              |  |                               |          |
|--------------|--|-------------------------------|----------|
| CONTACT NAME |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  |                               |          |
| ADDRESS      |  |                               |          |
| CITY         |  | STATE                         | ZIP CODE |
| PHONE NO.    |  | E-MAIL ADDRESS                |          |

**INVOICE TO**

|                                                                                                                                                                                                                                             |                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| PROJECT NO./NAME<br>Lower INC 30112391.00005                                                                                                                                                                                                | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br>Fehua Flexora / |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER                                         |                                                        |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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]

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

## Certifications

☐ OHIO VAP    ☐ Drinking Water  
☐ DoD    ☐ NPDES

## Project Locations

☐ Detroit      ☐ New York☐ Other \_\_\_\_\_

Special Instructions

|                        |                   |                                             |          |       |
|------------------------|-------------------|---------------------------------------------|----------|-------|
| RELINQUISHED BY:       | Lehcia Ferreira   | <input checked="" type="checkbox"/> Sampler | DATE     | TIME  |
| SIGNATURE/ORGANIZATION |                   |                                             | 09/27/22 | 15:20 |
| RECEIVED BY:           | Mori Cold storage |                                             | DATE     | TIME  |
| SIGNATURE/ORGANIZATION |                   |                                             | 09/22/22 | 15:20 |
| RELINQUISHED BY:       | Sommer Guy        |                                             | DATE     | TIME  |
| SIGNATURE/ORGANIZATION |                   |                                             | 9/23/22  |       |
| RECEIVED BY:           | Henriette Muli    |                                             | DATE     | TIME  |
| SIGNATURE/ORGANIZATION |                   |                                             | 9/27/22  | 13:00 |

|                  |                                                                         |                        |        |                  |  |       |  |
|------------------|-------------------------------------------------------------------------|------------------------|--------|------------------|--|-------|--|
| RELINQUISHED BY: |                                                                         | SIGNATURE/ORGANIZATION |        | DATE             |  | TIME  |  |
|                  |                                                                         | <i>[Signature]</i>     |        | 9/23/22          |  | 16:29 |  |
| RECEIVED BY:     |                                                                         | SIGNATURE/ORGANIZATION |        | DATE             |  | TIME  |  |
|                  |                                                                         | <i>[Signature]</i>     |        | 9/23/22          |  | 16:29 |  |
| SEAL NO.         | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS               | NOTES: | TEMP. ON ARRIVAL |  |       |  |
| SEAL NO.         | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS               |        | 3.2              |  |       |  |

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

Rev. 1.26.22





# Analytical Laboratory Report

Report ID: S40775.01(01)  
Generated on 10/11/2022

**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, Ian Drost

**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): S40775.01-S40775.07  
Project: Racer PNC / 30112891.00006  
Collected Date(s): 09/26/2022 - 09/27/2022  
Submitted Date/Time: 09/27/2022 15:40  
Sampled by: Christina Weaver  
P.O. #: 30112891.00006

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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

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report



# Analytical Laboratory Report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                                                |
|---------------|------------------------------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                                          |
| E245.1        | EPA Method 245.1 Revision 3.0                                          |
| E608.3        | EPA Method 608.3 December 2016                                         |
| N/A           | Not Applicable                                                         |
| SM2320B       | Standard Method 2320 B 2011                                            |
| SM2340C       | Standard Method 2340 C 2011                                            |
| SM2540C       | Standard Method 2540 C 2015                                            |
| SM2540D       | Standard Method 2540 D 2015                                            |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007                           |
| SW5030C/8260C | SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003 |
| SW8260B - SIM | SW 846 Method 8260B Revision 2 December 1996 SIMs                      |



## Analytical Laboratory Report

### Sample Summary (7 samples)

| Sample ID | Sample Tag          | Matrix      | Collected Date/Time |
|-----------|---------------------|-------------|---------------------|
| S40775.01 | Trip Blank          | Water       | 09/26/22 00:01      |
| S40775.02 | TW-MD-01_GW-092622  | Groundwater | 09/26/22 10:30      |
| S40775.03 | INJ-02-18_GW-092622 | Groundwater | 09/26/22 13:50      |
| S40775.04 | INJ-01-17_GW-092622 | Groundwater | 09/26/22 15:43      |
| S40775.05 | TW-MD-07_GW-092722  | Groundwater | 09/27/22 10:03      |
| S40775.06 | TW-MD-06_GW-092722  | Groundwater | 09/27/22 11:08      |
| S40775.07 | TW-MD-05_GW-092722  | Groundwater | 09/27/22 12:09      |



# Analytical Laboratory Report

Lab Sample ID: S40775.01

Sample Tag: Trip Blank

Collected Date/Time: 09/26/2022 00:01

Matrix: Water

COC Reference: 156964

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 09/30/22 16:45 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 02:40, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |





# Analytical Laboratory Report

Lab Sample ID: S40775.01 (continued)

Sample Tag: Trip Blank

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 02:40, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.02

Sample Tag: TW-MD-01\_GW-092622

Collected Date/Time: 09/26/2022 10:30

Matrix: Groundwater

COC Reference: 156964

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 4.0               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 4.0               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 4.0               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 4.0               | IR            |
| 1 | 1L Amber      | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 12:00 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 09/30/22 16:45 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 09/28/22 09:45 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/03/22 16:28, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 416    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:12, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 287    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/27/22 18:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,188  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 09/28/22 20:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 3      | 3  |     | mg/L  | 1        |      |       |

## Metals

Method: E200.8, Run Date: 09/28/22 12:10, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Arsenic   | 0.002        | 0.002  |     | mg/L  | 5        | 7440-38-2 |       |
| Barium    | 0.092        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 1.75         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.498        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | 0.010        | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.02 (continued)

Sample Tag: TW-MD-01\_GW-092622

Method: E200.8, Run Date: 09/28/22 12:10, Analyst: CCM (continued)

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | 0.009        | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

Method: E200.8, Run Date: 09/28/22 15:11, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 113    | 0.50 |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 28.8   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 10:52, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 09/30/22 11:44, Analyst: JANB

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

## Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/07/22 21:58, Analyst: KAG

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 2      | 1  |     | ug/L  | 1        | 123-91-1 |       |

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 03:03, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.02 (continued)

Sample Tag: TW-MD-01\_GW-092622

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 03:03, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| 1,4-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 106-46-7   |       |
| cis-1,2-Dichloroethene                | Not detected | 1  |     | ug/L  | 1        | 156-59-2   |       |
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.03

Sample Tag: INJ-02-18\_GW-092622

Collected Date/Time: 09/26/2022 13:50

Matrix: Groundwater

COC Reference: 156964

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 4.0               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 4.0               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 4.0               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 4.0               | IR            |
| 2 | 1L Amber      | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 12:00 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 09/30/22 16:45 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 09/28/22 09:45 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/03/22 16:30, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 350    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:16, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 308    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/27/22 18:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,730  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 09/28/22 20:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 38     | 3  |     | mg/L  | 2        |      |       |

## Metals

Method: E200.8, Run Date: 09/28/22 12:14, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Arsenic   | 0.007        | 0.002  |     | mg/L  | 5        | 7440-38-2 |       |
| Barium    | 0.259        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | 0.013        | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 19.6         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.540        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.03 (continued)

Sample Tag: INJ-02-18\_GW-092622

Method: E200.8, Run Date: 09/28/22 12:14, Analyst: CCM (continued)

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

Method: E200.8, Run Date: 09/28/22 15:13, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 125    | 0.50 |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 31.3   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 10:55, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 09/30/22 11:55, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 03:27, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |
| Dibromochloromethane        | Not detected | 5  |     | ug/L  | 1        | 124-48-1 |       |
| Dichlorodifluoromethane     | Not detected | 5  |     | ug/L  | 1        | 75-71-8  |       |





# Analytical Laboratory Report

Lab Sample ID: S40775.03 (continued)

Sample Tag: INJ-02-18\_GW-092622

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 03:27, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.04

Sample Tag: INJ-01-17\_GW-092622

Collected Date/Time: 09/26/2022 15:43

Matrix: Groundwater

COC Reference: 156964

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 4.0               | IR            |
| 2 | 125ml Plastic | HNO3            | Yes           | 4.0               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 4.0               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 4.0               | IR            |
| 2 | 1L Amber      | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 12:00 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 09/30/22 16:45 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 09/28/22 09:45 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/03/22 16:32, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 350    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:18, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 309    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,610  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 09/28/22 20:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 43     | 3  |     | mg/L  | 1.33     |      |       |

## Metals

Method: E200.8, Run Date: 09/28/22 12:20, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Arsenic   | 0.005        | 0.002  |     | mg/L  | 5        | 7440-38-2 |       |
| Barium    | 0.281        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 21.6         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.576        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.04 (continued)

Sample Tag: INJ-01-17\_GW-092622

Method: E200.8, Run Date: 09/28/22 12:20, Analyst: CCM (continued)

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

Method: E200.8, Run Date: 09/28/22 15:15, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 126    | 0.50 |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 33.1   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 10:58, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 09/30/22 12:07, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 03:50, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |
| Dibromochloromethane        | Not detected | 5  |     | ug/L  | 1        | 124-48-1 |       |
| Dichlorodifluoromethane     | Not detected | 5  |     | ug/L  | 1        | 75-71-8  |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.04 (continued)

Sample Tag: INJ-01-17\_GW-092622

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 03:50, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.05

Sample Tag: TW-MD-07\_GW-092722

Collected Date/Time: 09/27/2022 10:03

Matrix: Groundwater

COC Reference: 156964

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 4.0               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 4.0               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 4.0               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 4.0               | IR            |
| 2 | 1L Amber      | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 12:00 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 09/30/22 16:45 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 09/28/22 09:45 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/03/22 16:34, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 318    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:20, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 309    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,220  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 09/28/22 20:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 22     | 3  |     | mg/L  | 1        |      |       |

## Metals

Method: E200.8, Run Date: 09/28/22 12:27, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Arsenic   | 0.003        | 0.002  |     | mg/L  | 5        | 7440-38-2 |       |
| Barium    | 0.188        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 16.8         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.433        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.05 (continued)

Sample Tag: TW-MD-07\_GW-092722

Method: E200.8, Run Date: 09/28/22 12:27, Analyst: CCM (continued)

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

Method: E200.8, Run Date: 09/28/22 15:18, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 118    | 0.50 |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 32.5   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 11:02, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/03/22 19:30, Analyst: JANB

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

## Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/07/22 22:19, Analyst: KAG

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 1      | 1  |     | ug/L  | 1        | 123-91-1 |       |

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 04:14, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.05 (continued)

Sample Tag: TW-MD-07\_GW-092722

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 04:14, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| 1,4-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 106-46-7   |       |
| cis-1,2-Dichloroethene                | Not detected | 1  |     | ug/L  | 1        | 156-59-2   |       |
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |





# Analytical Laboratory Report

Lab Sample ID: S40775.06

Sample Tag: TW-MD-06\_GW-092722

Collected Date/Time: 09/27/2022 11:08

Matrix: Groundwater

COC Reference: 156964

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 4.0               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 4.0               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 4.0               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 4.0               | IR            |
| 2 | 1L Amber      | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 12:00 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 09/30/22 16:45 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 09/28/22 09:45 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/03/22 16:36, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 308    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:22, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 268    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,260  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 09/28/22 20:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 20     | 3  |     | mg/L  | 1        |      |       |

## Metals

Method: E200.8, Run Date: 09/28/22 12:31, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Arsenic   | 0.008        | 0.002  |     | mg/L  | 5        | 7440-38-2 |       |
| Barium    | 0.198        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 11.3         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.437        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.06 (continued)

Sample Tag: TW-MD-06\_GW-092722

Method: E200.8, Run Date: 09/28/22 12:31, Analyst: CCM (continued)

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

Method: E200.8, Run Date: 09/28/22 15:20, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 107    | 0.50 |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 34.5   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 11:18, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/03/22 19:43, Analyst: JANB

| Parameter   | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-------------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1016    | Not detected | 0.1 |     | ug/L  | 1        | 12674-11-2 |       |
| PCB-1221    | Not detected | 0.1 |     | ug/L  | 1        | 11104-28-2 |       |
| PCB-1232    | Not detected | 0.1 |     | ug/L  | 1        | 11141-16-5 |       |
| PCB-1242    | Not detected | 0.1 |     | ug/L  | 1        | 53469-21-9 |       |
| PCB-1248    | 0.6          | 0.1 |     | ug/L  | 1        | 12672-29-6 |       |
| PCB-1254    | Not detected | 0.1 |     | ug/L  | 1        | 11097-69-1 |       |
| PCB-1260    | Not detected | 0.1 |     | ug/L  | 1        | 11096-82-5 |       |
| PCB, Total* | 0.6          | 0.1 |     | ug/L  | 1        | 1336-36-3  |       |

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 04:38, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |
| Dibromochloromethane        | Not detected | 5  |     | ug/L  | 1        | 124-48-1 |       |
| Dichlorodifluoromethane     | Not detected | 5  |     | ug/L  | 1        | 75-71-8  |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.06 (continued)

Sample Tag: TW-MD-06\_GW-092722

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 04:38, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.07

Sample Tag: TW-MD-05\_GW-092722

Collected Date/Time: 09/27/2022 12:09

Matrix: Groundwater

COC Reference: 156964

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 4.0               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 4.0               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 4.0               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 4.0               | IR            |
| 2 | 1L Amber      | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 12:00 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 09/30/22 16:45 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 09/28/22 09:45 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/03/22 16:38, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 264    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:24, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 138    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,190  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 09/28/22 20:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 22     | 3  |     | mg/L  | 1        |      |       |

## Metals

Method: E200.8, Run Date: 09/28/22 12:34, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Arsenic   | 0.006        | 0.002  |     | mg/L  | 5        | 7440-38-2 |       |
| Barium    | 0.124        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | 0.009        | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 10.4         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.398        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.07 (continued)

Sample Tag: TW-MD-05\_GW-092722

Method: E200.8, Run Date: 09/28/22 12:34, Analyst: CCM (continued)

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

Method: E200.8, Run Date: 09/28/22 15:21, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 60.6   | 0.50 |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 18.7   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 11:21, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/03/22 19:54, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 05:02, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |
| Dibromochloromethane        | Not detected | 5  |     | ug/L  | 1        | 124-48-1 |       |
| Dichlorodifluoromethane     | Not detected | 5  |     | ug/L  | 1        | 75-71-8  |       |



# Analytical Laboratory Report

Lab Sample ID: S40775.07 (continued)

Sample Tag: TW-MD-05\_GW-092722

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 09/30/22 05:02, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40775

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: Racer PNC / 30112891.00006

Submitted:09/27/2022 15:40 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 4.0 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_



## Merit Laboratories Bottle Preservation Check

Lab Set ID: S40775      Submitted: 09/27/2022 15:40

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: Racer PNC / 30112891.00006

Initial Preservation Check: 09/27/2022 16:54 PFD

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S40775.02 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40775.03 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40775.04 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40775.04 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40775.05 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40775.06 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40775.07 | 125ml Plastic HNO3    | <2        |        |          |       |

## REPORT TO

## CHAIN OF CUSTODY RECORD

**INVOICE TO**

|                                                                       |               |                            |                   |
|-----------------------------------------------------------------------|---------------|----------------------------|-------------------|
| CONTACT NAME<br>ALEXIS CRISP                                          |               |                            |                   |
| COMPANY<br>ARCADIS                                                    |               |                            |                   |
| ADDRESS<br>28550 CABOT DR #500                                        |               |                            |                   |
| CITY<br>NOVI                                                          |               | STATE<br>MI                | ZIP CODE<br>48377 |
| PHONE NO.<br>—                                                        | CELL NO.<br>— | P.O. NO.<br>30112891.00006 |                   |
| E-MAIL ADDRESS<br>ALEXIS.CRISP@ARCADIS.COM TIFFANY.LUNDER@ARCADIS.COM |               | QUOTE NO.<br>—             |                   |

|                 |  |                                            |  |                               |  |
|-----------------|--|--------------------------------------------|--|-------------------------------|--|
| CONTACT NAME    |  | ACCOUNTS PAYABLE                           |  | <input type="checkbox"/> SAME |  |
| COMPANY         |  | ARCADIS                                    |  |                               |  |
| ADDRESS         |  | 630 PLAZA DR STE # 600                     |  |                               |  |
| CITY            |  | STATE                                      |  | ZIP CODE                      |  |
| HIGHLANDS RANCH |  | CO                                         |  | 80129                         |  |
| PHONE NO.       |  | E-MAIL ADDRESS                             |  |                               |  |
| —               |  | ACCOUNTSPAYABLE.ADMINISTRATION@ARCADIS.COM |  |                               |  |

## ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

|                                                                                                                                                                                                                                             |                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| PROJECT NO./NAME<br><b>PACER PNC / 30112891.00006</b>                                                                                                                                                                                       | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>CHRISTINA WEAN</b> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER                                         |                                                              |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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]

|                        |                                                                                                  |           |       |
|------------------------|--------------------------------------------------------------------------------------------------|-----------|-------|
| RELINQUISHED BY:       | <br>LAROCHE   | DATE      | TIME  |
| SIGNATURE/ORGANIZATION |                                                                                                  | 9/27/2022 | 1310  |
| RECEIVED BY:           | <br>J. Miller | DATE      | TIME  |
| SIGNATURE/ORGANIZATION |                                                                                                  | 9/27/22   | 13:40 |
| RELINQUISHED BY:       | <br>J. Miller | DATE      | TIME  |
| SIGNATURE/ORGANIZATION |                                                                                                  | 9/27/22   | 15:40 |
| RECEIVED BY:           | <br>M. Chelco | DATE      | TIME  |
| SIGNATURE/ORGANIZATION |                                                                                                  | 9/27/22   | 1540  |

|                        |                                                                         |          |        |                             |
|------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:       |                                                                         |          | DATE   | TIME                        |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                             |
| RECEIVED BY:           |                                                                         |          | DATE   | TIME                        |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                             |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>4.0</u> |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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



# Quality Control Report

Report ID: QC-S40775-01  
Generated on 10/12/2022

## Report to

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

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

Phone: 810-225-1909 FAX:

## Report Summary

Lab Sample ID(s): S40775.01-S40775.07  
Project: Racer PNC / 30112891.00006  
Submitted Date/Time: 09/27/2022 15:40  
Sampled by: Christina Weaver  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-8)  
Prep Batch Summary (Pages 9-12)  
Surrogates per Lab Sample (Pages 13-19)  
Surrogates per QC Sample (Pages 20-22)  
Batch QC Results (Pages 23-38)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S40775.01**

Sample Tag: Trip Blank

Collected Date/Time: 09/26/2022 00:01

Matrix: Water

COC Reference: 156964

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 09/30/22 02:40 | 220929D3 | VF220929W1 | Yes  | BLK/LCS/LCSD |

# QC Report - Analysis Summary

**Lab Sample ID: S40775.02**

Sample Tag: TW-MD-01\_GW-092622

Collected Date/Time: 09/26/2022 10:30

Matrix: Groundwater

COC Reference: 156964

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|------------------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                |
| Alkalinity as CaCO3                      | SM2320B       | 10/03/22 16:28 | ALK221003-W1 | ALK221003-W1 | No   | BLK/LCS/MS/DUP |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:12 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP |
| Total Dissolved Solids                   | SM2540C       | 09/27/22 18:00 | TDS220927B   | TDS220927B   | No   | BLK/LCS/DUP    |
| Total Suspended Solids                   | SM2540D       | 09/28/22 20:00 | TSS220928    | TSS220928    | No   | BLK/LCS/DUP    |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                |
| Antimony                                 | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                                  | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Barium                                   | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                                | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                                  | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Calcium                                  | E200.8        | 09/28/22 15:11 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Chromium                                 | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                                   | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Copper                                   | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Iron                                     | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Lead                                     | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Magnesium                                | E200.8        | 09/28/22 15:11 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Manganese                                | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Mercury                                  | E245.1        | 10/03/22 10:52 | HG-22-1003A  | HGD-100322-1 | No   | BLK/LCS/MS/MSD |
| Nickel                                   | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Selenium                                 | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Silver                                   | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Thallium                                 | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                                 | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Zinc                                     | E200.8        | 09/28/22 12:10 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                |
| PCB                                      | E608.3        | 09/30/22 11:44 | A220930      | PA220929W1   | Yes  | BLK/LCS/LCSD   |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                |
| 1,4-Dioxane                              | SW8260B - SIM | 10/07/22 21:58 | 221007B9     | VS221007W1   | Yes  | BLK/LCS/LCSD   |
| Volatile Organics - Arcadis              | SW5030C/8260C | 09/30/22 03:03 | 220929D3     | VF220929W1   | Yes  | BLK/LCS/LCSD   |

# QC Report - Analysis Summary

**Lab Sample ID: S40775.03**

Sample Tag: INJ-02-18\_GW-092622

Collected Date/Time: 09/26/2022 13:50

Matrix: Groundwater

COC Reference: 156964

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|------------------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                |
| Alkalinity as CaCO3                      | SM2320B       | 10/03/22 16:30 | ALK221003-W1 | ALK221003-W1 | No   | BLK/LCS/MS/DUP |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:16 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP |
| Total Dissolved Solids                   | SM2540C       | 09/27/22 18:00 | TDS220927B   | TDS220927B   | No   | BLK/LCS/DUP    |
| Total Suspended Solids                   | SM2540D       | 09/28/22 20:00 | TSS220928    | TSS220928    | No   | BLK/LCS/DUP    |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                |
| Antimony                                 | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                                  | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Barium                                   | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                                | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                                  | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Calcium                                  | E200.8        | 09/28/22 15:13 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Chromium                                 | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                                   | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Copper                                   | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Iron                                     | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Lead                                     | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Magnesium                                | E200.8        | 09/28/22 15:13 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Manganese                                | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Mercury                                  | E245.1        | 10/03/22 10:55 | HG-22-1003A  | HGD-100322-1 | No   | BLK/LCS/MS/MSD |
| Nickel                                   | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Selenium                                 | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Silver                                   | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Thallium                                 | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                                 | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Zinc                                     | E200.8        | 09/28/22 12:14 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                |
| PCB                                      | E608.3        | 09/30/22 11:55 | A220930      | PA220929W1   | Yes  | BLK/LCS/LCSD   |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                |
| Volatile Organics - Arcadis              | SW5030C/8260C | 09/30/22 03:27 | 220929D3     | VF220929W1   | Yes  | BLK/LCS/LCSD   |

# QC Report - Analysis Summary

**Lab Sample ID: S40775.04**

Sample Tag: INJ-01-17\_GW-092622

Collected Date/Time: 09/26/2022 15:43

Matrix: Groundwater

COC Reference: 156964

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|------------------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                |
| Alkalinity as CaCO3                      | SM2320B       | 10/03/22 16:32 | ALK221003-W1 | ALK221003-W1 | No   | BLK/LCS/MS/DUP |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:18 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP |
| Total Dissolved Solids                   | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP    |
| Total Suspended Solids                   | SM2540D       | 09/28/22 20:00 | TSS220928    | TSS220928    | No   | BLK/LCS/DUP    |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                |
| Antimony                                 | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                                  | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Barium                                   | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                                | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                                  | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Calcium                                  | E200.8        | 09/28/22 15:15 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Chromium                                 | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                                   | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Copper                                   | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Iron                                     | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Lead                                     | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Magnesium                                | E200.8        | 09/28/22 15:15 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Manganese                                | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Mercury                                  | E245.1        | 10/03/22 10:58 | HG-22-1003A  | HGD-100322-1 | No   | BLK/LCS/MS/MSD |
| Nickel                                   | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Selenium                                 | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Silver                                   | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Thallium                                 | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                                 | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Zinc                                     | E200.8        | 09/28/22 12:20 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                |
| PCB                                      | E608.3        | 09/30/22 12:07 | A220930      | PA220929W1   | Yes  | BLK/LCS/LCSD   |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                |
| Volatile Organics - Arcadis              | SW5030C/8260C | 09/30/22 03:50 | 220929D3     | VF220929W1   | Yes  | BLK/LCS/LCSD   |



# QC Report - Analysis Summary

Lab Sample ID: S40775.05

Sample Tag: TW-MD-07\_GW-092722

Collected Date/Time: 09/27/2022 10:03

Matrix: Groundwater

COC Reference: 156964

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|-----------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b>Inorganics</b>                 |               |                |              |              |      |                |
| Alkalinity as CaCO3               | SM2320B       | 10/03/22 16:34 | ALK221003-W1 | ALK221003-W1 | No   | BLK/LCS/MS/DUP |
| Hardness as CaCO3                 | SM2340C       | 10/11/22 13:20 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP |
| Total Dissolved Solids            | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP    |
| Total Suspended Solids            | SM2540D       | 09/28/22 20:00 | TSS220928    | TSS220928    | No   | BLK/LCS/DUP    |
| <b>Metals</b>                     |               |                |              |              |      |                |
| Antimony                          | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                           | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Barium                            | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                         | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                           | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Calcium                           | E200.8        | 09/28/22 15:18 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Chromium                          | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                            | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Copper                            | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Iron                              | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Lead                              | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Magnesium                         | E200.8        | 09/28/22 15:18 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Manganese                         | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Mercury                           | E245.1        | 10/03/22 11:02 | HG-22-1003A  | HGD-100322-1 | No   | BLK/LCS/MS/MSD |
| Nickel                            | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Selenium                          | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Silver                            | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Thallium                          | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                          | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Zinc                              | E200.8        | 09/28/22 12:27 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                |
| PCB                               | E608.3        | 10/03/22 19:30 | E221003      | PA220929W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                |
| 1,4-Dioxane                       | SW8260B - SIM | 10/07/22 22:19 | 221007B9     | VS221007W1   | Yes  | BLK/LCS/LCSD   |
| Volatile Organics - Arcadis       | SW5030C/8260C | 09/30/22 04:14 | 220929D3     | VF220929W1   | Yes  | BLK/LCS/LCSD   |

# QC Report - Analysis Summary

**Lab Sample ID: S40775.06**

Sample Tag: TW-MD-06\_GW-092722

Collected Date/Time: 09/27/2022 11:08

Matrix: Groundwater

COC Reference: 156964

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|------------------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                |
| Alkalinity as CaCO3                      | SM2320B       | 10/03/22 16:36 | ALK221003-W1 | ALK221003-W1 | No   | BLK/LCS/MS/DUP |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:22 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP |
| Total Dissolved Solids                   | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP    |
| Total Suspended Solids                   | SM2540D       | 09/28/22 20:00 | TSS220928    | TSS220928    | No   | BLK/LCS/DUP    |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                |
| Antimony                                 | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                                  | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Barium                                   | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                                | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                                  | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Calcium                                  | E200.8        | 09/28/22 15:20 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Chromium                                 | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                                   | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Copper                                   | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Iron                                     | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Lead                                     | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Magnesium                                | E200.8        | 09/28/22 15:20 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Manganese                                | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Mercury                                  | E245.1        | 10/03/22 11:18 | HG-22-1003A  | HGD-100322-1 | No   | BLK/LCS/MS/MSD |
| Nickel                                   | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Selenium                                 | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Silver                                   | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Thallium                                 | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                                 | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Zinc                                     | E200.8        | 09/28/22 12:31 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                |
| PCB                                      | E608.3        | 10/03/22 19:43 | E221003      | PA220929W1   | Yes  | BLK/LCS/LCSD   |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                |
| Volatile Organics - Arcadis              | SW5030C/8260C | 09/30/22 04:38 | 220929D3     | VF220929W1   | Yes  | BLK/LCS/LCSD   |

# QC Report - Analysis Summary

**Lab Sample ID: S40775.07**

Sample Tag: TW-MD-05\_GW-092722

Collected Date/Time: 09/27/2022 12:09

Matrix: Groundwater

COC Reference: 156964

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|------------------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                |
| Alkalinity as CaCO3                      | SM2320B       | 10/03/22 16:38 | ALK221003-W1 | ALK221003-W1 | No   | BLK/LCS/MS/DUP |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:24 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP |
| Total Dissolved Solids                   | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP    |
| Total Suspended Solids                   | SM2540D       | 09/28/22 20:00 | TSS220928    | TSS220928    | No   | BLK/LCS/DUP    |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                |
| Antimony                                 | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                                  | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Barium                                   | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                                | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                                  | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Calcium                                  | E200.8        | 09/28/22 15:21 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Chromium                                 | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                                   | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Copper                                   | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Iron                                     | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Lead                                     | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Magnesium                                | E200.8        | 09/28/22 15:21 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Manganese                                | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Mercury                                  | E245.1        | 10/03/22 11:21 | HG-22-1003A  | HGD-100322-1 | No   | BLK/LCS/MS/MSD |
| Nickel                                   | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Selenium                                 | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Silver                                   | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Thallium                                 | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                                 | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| Zinc                                     | E200.8        | 09/28/22 12:34 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                |
| PCB                                      | E608.3        | 10/03/22 19:54 | E221003      | PA220929W1   | Yes  | BLK/LCS/LCSD   |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                |
| Volatile Organics - Arcadis              | SW5030C/8260C | 09/30/22 05:02 | 220929D3     | VF220929W1   | Yes  | BLK/LCS/LCSD   |

# QC Report - Prep Batch Summary

## Inorganics, Prep Batch ID: ALK221003-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

| Sample ID | Analysis            | Method  | Run Date/Time  | Batch ID     |
|-----------|---------------------|---------|----------------|--------------|
| S40775.02 | Alkalinity as CaCO3 | SM2320B | 10/03/22 16:28 | ALK221003-W1 |
| S40775.03 | Alkalinity as CaCO3 | SM2320B | 10/03/22 16:30 | ALK221003-W1 |
| S40775.04 | Alkalinity as CaCO3 | SM2320B | 10/03/22 16:32 | ALK221003-W1 |
| S40775.05 | Alkalinity as CaCO3 | SM2320B | 10/03/22 16:34 | ALK221003-W1 |
| S40775.06 | Alkalinity as CaCO3 | SM2320B | 10/03/22 16:36 | ALK221003-W1 |
| S40775.07 | Alkalinity as CaCO3 | SM2320B | 10/03/22 16:38 | ALK221003-W1 |

## Inorganics, Prep Batch ID: HRD221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

| Sample ID | Analysis          | Method  | Run Date/Time  | Batch ID     |
|-----------|-------------------|---------|----------------|--------------|
| S40775.02 | Hardness as CaCO3 | SM2340C | 10/11/22 13:12 | HRD221011-W1 |
| S40775.03 | Hardness as CaCO3 | SM2340C | 10/11/22 13:16 | HRD221011-W1 |
| S40775.04 | Hardness as CaCO3 | SM2340C | 10/11/22 13:18 | HRD221011-W1 |
| S40775.05 | Hardness as CaCO3 | SM2340C | 10/11/22 13:20 | HRD221011-W1 |
| S40775.06 | Hardness as CaCO3 | SM2340C | 10/11/22 13:22 | HRD221011-W1 |
| S40775.07 | Hardness as CaCO3 | SM2340C | 10/11/22 13:24 | HRD221011-W1 |

## Inorganics, Prep Batch ID: TDS220927B

Surrogates: No, QC Types: BLK/LCS/DUP

| Sample ID | Analysis               | Method  | Run Date/Time  | Batch ID   |
|-----------|------------------------|---------|----------------|------------|
| S40775.02 | Total Dissolved Solids | SM2540C | 09/27/22 18:00 | TDS220927B |
| S40775.03 | Total Dissolved Solids | SM2540C | 09/27/22 18:00 | TDS220927B |

## Inorganics, Prep Batch ID: TDS220930

Surrogates: No, QC Types: BLK/LCS/DUP

| Sample ID | Analysis               | Method  | Run Date/Time  | Batch ID  |
|-----------|------------------------|---------|----------------|-----------|
| S40775.04 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |
| S40775.05 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |
| S40775.06 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |
| S40775.07 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |

## Inorganics, Prep Batch ID: TSS220928

Surrogates: No, QC Types: BLK/LCS/DUP

| Sample ID | Analysis               | Method  | Run Date/Time  | Batch ID  |
|-----------|------------------------|---------|----------------|-----------|
| S40775.02 | Total Suspended Solids | SM2540D | 09/28/22 20:00 | TSS220928 |
| S40775.03 | Total Suspended Solids | SM2540D | 09/28/22 20:00 | TSS220928 |
| S40775.04 | Total Suspended Solids | SM2540D | 09/28/22 20:00 | TSS220928 |
| S40775.05 | Total Suspended Solids | SM2540D | 09/28/22 20:00 | TSS220928 |
| S40775.06 | Total Suspended Solids | SM2540D | 09/28/22 20:00 | TSS220928 |
| S40775.07 | Total Suspended Solids | SM2540D | 09/28/22 20:00 | TSS220928 |

## Metals, Prep Batch ID: HGD-100322-1

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID    |
|-----------|----------|--------|----------------|-------------|
| S40775.02 | Mercury  | E245.1 | 10/03/22 10:52 | HG-22-1003A |
| S40775.03 | Mercury  | E245.1 | 10/03/22 10:55 | HG-22-1003A |
| S40775.04 | Mercury  | E245.1 | 10/03/22 10:58 | HG-22-1003A |
| S40775.05 | Mercury  | E245.1 | 10/03/22 11:02 | HG-22-1003A |
| S40775.06 | Mercury  | E245.1 | 10/03/22 11:18 | HG-22-1003A |
| S40775.07 | Mercury  | E245.1 | 10/03/22 11:21 | HG-22-1003A |

# QC Report - Prep Batch Summary

## Metals, Prep Batch ID: MTD-092822-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40775.02 | Antimony  | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Arsenic   | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Barium    | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Beryllium | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Cadmium   | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Calcium   | E200.8 | 09/28/22 15:11 | MT4-22-0928B |
| S40775.02 | Chromium  | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Cobalt    | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Copper    | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Iron      | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Lead      | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Magnesium | E200.8 | 09/28/22 15:11 | MT4-22-0928B |
| S40775.02 | Manganese | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Nickel    | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Selenium  | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Silver    | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Thallium  | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Vanadium  | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.02 | Zinc      | E200.8 | 09/28/22 12:10 | MT4-22-0928A |
| S40775.03 | Antimony  | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Arsenic   | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Barium    | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Beryllium | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Cadmium   | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Calcium   | E200.8 | 09/28/22 15:13 | MT4-22-0928B |
| S40775.03 | Chromium  | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Cobalt    | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Copper    | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Iron      | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Lead      | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Magnesium | E200.8 | 09/28/22 15:13 | MT4-22-0928B |
| S40775.03 | Manganese | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Nickel    | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Selenium  | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Silver    | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Thallium  | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Vanadium  | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.03 | Zinc      | E200.8 | 09/28/22 12:14 | MT4-22-0928A |
| S40775.04 | Antimony  | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Arsenic   | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Barium    | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Beryllium | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Cadmium   | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Calcium   | E200.8 | 09/28/22 15:15 | MT4-22-0928B |
| S40775.04 | Chromium  | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Cobalt    | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Copper    | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Iron      | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Lead      | E200.8 | 09/28/22 12:20 | MT4-22-0928A |

# QC Report - Prep Batch Summary

## Metals, Prep Batch ID: MTD-092822-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40775.04 | Magnesium | E200.8 | 09/28/22 15:15 | MT4-22-0928B |
| S40775.04 | Manganese | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Nickel    | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Selenium  | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Silver    | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Thallium  | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Vanadium  | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.04 | Zinc      | E200.8 | 09/28/22 12:20 | MT4-22-0928A |
| S40775.05 | Antimony  | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Arsenic   | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Barium    | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Beryllium | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Cadmium   | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Calcium   | E200.8 | 09/28/22 15:18 | MT4-22-0928B |
| S40775.05 | Chromium  | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Cobalt    | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Copper    | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Iron      | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Lead      | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Magnesium | E200.8 | 09/28/22 15:18 | MT4-22-0928B |
| S40775.05 | Manganese | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Nickel    | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Selenium  | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Silver    | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Thallium  | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Vanadium  | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.05 | Zinc      | E200.8 | 09/28/22 12:27 | MT4-22-0928A |
| S40775.06 | Antimony  | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Arsenic   | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Barium    | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Beryllium | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Cadmium   | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Calcium   | E200.8 | 09/28/22 15:20 | MT4-22-0928B |
| S40775.06 | Chromium  | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Cobalt    | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Copper    | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Iron      | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Lead      | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Magnesium | E200.8 | 09/28/22 15:20 | MT4-22-0928B |
| S40775.06 | Manganese | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Nickel    | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Selenium  | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Silver    | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Thallium  | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Vanadium  | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.06 | Zinc      | E200.8 | 09/28/22 12:31 | MT4-22-0928A |
| S40775.07 | Antimony  | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Arsenic   | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Barium    | E200.8 | 09/28/22 12:34 | MT4-22-0928A |

# QC Report - Prep Batch Summary

## Metals, Prep Batch ID: MTD-092822-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40775.07 | Beryllium | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Cadmium   | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Calcium   | E200.8 | 09/28/22 15:21 | MT4-22-0928B |
| S40775.07 | Chromium  | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Cobalt    | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Copper    | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Iron      | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Lead      | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Magnesium | E200.8 | 09/28/22 15:21 | MT4-22-0928B |
| S40775.07 | Manganese | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Nickel    | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Selenium  | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Silver    | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Thallium  | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Vanadium  | E200.8 | 09/28/22 12:34 | MT4-22-0928A |
| S40775.07 | Zinc      | E200.8 | 09/28/22 12:34 | MT4-22-0928A |

## Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S40775.02 | PCB      | E608.3 | 09/30/22 11:44 | A220930  |
| S40775.03 | PCB      | E608.3 | 09/30/22 11:55 | A220930  |
| S40775.04 | PCB      | E608.3 | 09/30/22 12:07 | A220930  |
| S40775.05 | PCB      | E608.3 | 10/03/22 19:30 | E221003  |
| S40775.06 | PCB      | E608.3 | 10/03/22 19:43 | E221003  |
| S40775.07 | PCB      | E608.3 | 10/03/22 19:54 | E221003  |

## Organics - Volatiles, Prep Batch ID: VF220929W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40775.01 | Volatile Organics - Arcadis | SW5030C/8260C | 09/30/22 02:40 | 220929D3 |
| S40775.02 | Volatile Organics - Arcadis | SW5030C/8260C | 09/30/22 03:03 | 220929D3 |
| S40775.03 | Volatile Organics - Arcadis | SW5030C/8260C | 09/30/22 03:27 | 220929D3 |
| S40775.04 | Volatile Organics - Arcadis | SW5030C/8260C | 09/30/22 03:50 | 220929D3 |
| S40775.05 | Volatile Organics - Arcadis | SW5030C/8260C | 09/30/22 04:14 | 220929D3 |
| S40775.06 | Volatile Organics - Arcadis | SW5030C/8260C | 09/30/22 04:38 | 220929D3 |
| S40775.07 | Volatile Organics - Arcadis | SW5030C/8260C | 09/30/22 05:02 | 220929D3 |

## Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis    | Method        | Run Date/Time  | Batch ID |
|-----------|-------------|---------------|----------------|----------|
| S40775.02 | 1,4-Dioxane | SW8260B - SIM | 10/07/22 21:58 | 221007B9 |
| S40775.05 | 1,4-Dioxane | SW8260B - SIM | 10/07/22 22:19 | 221007B9 |



## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40775.01

Sample Tag: Trip Blank

Collected Date/Time: 09/26/2022 00:01

Matrix: Water

COC Reference: 156964

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220929D3, Run Date: 09/30/2022 02:40, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 106.6 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 105.1 | 72.0 | 125.0 |
| Toluene-D8            |       | 104.8 | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40775.02**

Sample Tag: TW-MD-01\_GW-092622

Collected Date/Time: 09/26/2022 10:30

Matrix: Groundwater

COC Reference: 156964

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: A220930, Run Date: 09/30/2022 11:44, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec          | LCL  | UCL   |
|-----------|-------|---------------|------|-------|
| TCX       |       | <b>100.80</b> | 34.1 | 137.1 |
| DCBP      |       | <b>110.10</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220929D3, Run Date: 09/30/2022 03:03, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>105.2</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>98.7</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>104.5</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40775.03**

Sample Tag: INJ-02-18\_GW-092622

Collected Date/Time: 09/26/2022 13:50

Matrix: Groundwater

COC Reference: 156964

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: A220930, Run Date: 09/30/2022 11:55, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>87.00</b> | 34.1 | 137.1 |
| DCBP      |       | <b>91.40</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220929D3, Run Date: 09/30/2022 03:27, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.3</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>107.0</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>104.2</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40775.04**

Sample Tag: INJ-01-17\_GW-092622

Collected Date/Time: 09/26/2022 15:43

Matrix: Groundwater

COC Reference: 156964

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: A220930, Run Date: 09/30/2022 12:07, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>91.90</b> | 34.1 | 137.1 |
| DCBP      |       | <b>93.80</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220929D3, Run Date: 09/30/2022 03:50, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>107.7</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>110.7</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>105.1</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40775.05**

Sample Tag: TW-MD-07\_GW-092722

Collected Date/Time: 09/27/2022 10:03

Matrix: Groundwater

COC Reference: 156964

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221003, Run Date: 10/03/2022 19:30, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec          | LCL  | UCL   |
|-----------|-------|---------------|------|-------|
| TCX       |       | <b>90.40</b>  | 34.1 | 137.1 |
| DCBP      |       | <b>107.10</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220929D3, Run Date: 09/30/2022 04:14, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>107.5</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>108.4</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>105.6</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40775.06**

Sample Tag: TW-MD-06\_GW-092722

Collected Date/Time: 09/27/2022 11:08

Matrix: Groundwater

COC Reference: 156964

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221003, Run Date: 10/03/2022 19:43, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec          | LCL  | UCL   |
|-----------|-------|---------------|------|-------|
| TCX       |       | <b>108.70</b> | 34.1 | 137.1 |
| DCBP      |       | <b>69.90</b>  | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220929D3, Run Date: 09/30/2022 04:38, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>106.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>106.7</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>104.5</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40775.07**

Sample Tag: TW-MD-05\_GW-092722

Collected Date/Time: 09/27/2022 12:09

Matrix: Groundwater

COC Reference: 156964

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221003, Run Date: 10/03/2022 19:54, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>78.30</b> | 34.1 | 137.1 |
| DCBP      |       | <b>91.00</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 220929D3, Run Date: 09/30/2022 05:02, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>107.4</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>100.9</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.4</b> | 89.0 | 112.0 |



## QC Report - Surrogates per QC Sample

Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22093003.sblk-w.01

Run in Batch: A220930, Run Date: 09/30/2022 10:50, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 90.30 | 34.1 | 137.1 |
| DCBP      |       | 91.40 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:15, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec   | LCL  | UCL   |
|-----------|-------|--------|------|-------|
| TCX       |       | 86.80  | 34.1 | 137.1 |
| DCBP      |       | 103.10 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22093005.slcs-w.01d, Parent Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:30, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 83.00 | 34.1 | 137.1 |
| DCBP      |       | 91.40 | 30.0 | 138.6 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF220929W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 220929D3.BLKW29B

Run in Batch: 220929D3, Run Date: 09/30/2022 01:53, Prep Date: 07/29/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>112.3</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>105.6</b> | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 220929D3.LCSW29B

Run in Batch: 220929D3, Run Date: 09/30/2022 00:19, Prep Date: 07/29/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>111.6</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>108.5</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>105.8</b> | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220929D3.LCSDW29B, Parent Sample ID: 220929D3.LCSW29B

Run in Batch: 220929D3, Run Date: 09/30/2022 00:42, Prep Date: 07/29/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.4</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>102.5</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>104.7</b> | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VS221007W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: ALK221003-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

#### Blank (BLK)

Lab Sample ID: ALK221003-W1.LRB1

Run in Batch: ALK221003-W1, Run Date: 10/03/2022 16:00, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | Conc | RDL | Units |
|---------------------|-------|------|-----|-------|
| Alkalinity as CaCO3 |       | ND   | 1   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: ALK221003-W1.LCS1

Run in Batch: ALK221003-W1, Run Date: 10/03/2022 16:06, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | % Rec | LCL | UCL |
|---------------------|-------|-------|-----|-----|
| Alkalinity as CaCO3 |       | 94    | 90  | 110 |

#### Matrix Spike (MS)

Lab Sample ID: ALK221003-W1.MS1, Parent Sample ID: S40766.02

Run in Batch: ALK221003-W1, Run Date: 10/03/2022 16:18, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | % Rec | LCL | UCL |
|---------------------|-------|-------|-----|-----|
| Alkalinity as CaCO3 |       | 100   | 80  | 120 |

#### Duplicate (DUP)

Lab Sample ID: ALK221003-W1.DP1, Parent Sample ID: S40709.01

Run in Batch: ALK221003-W1, Run Date: 10/03/2022 16:10, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 2

| Analyte             | Flags | RPD | RPD CL |
|---------------------|-------|-----|--------|
| Alkalinity as CaCO3 |       | <1  | 15     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: HRD221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

#### Blank (BLK)

Lab Sample ID: HRD221011-W1.LRB1

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:00, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | Conc | RDL | Units |
|-------------------|-------|------|-----|-------|
| Hardness as CaCO3 |       | ND   | 2   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HRD221011-W1.LCS1

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:06, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | % Rec | LCL | UCL |
|-------------------|-------|-------|-----|-----|
| Hardness as CaCO3 |       | 101   | 90  | 110 |

#### Matrix Spike (MS)

Lab Sample ID: HRD221011-W1.MS1, Parent Sample ID: S40775.02

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:14, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | % Rec | LCL | UCL |
|-------------------|-------|-------|-----|-----|
| Hardness as CaCO3 |       | 102   | 80  | 120 |

#### Duplicate (DUP)

Lab Sample ID: HRD221011-W1.DP1, Parent Sample ID: S41042.07

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:10, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 10

| Analyte           | Flags | RPD | RPD CL |
|-------------------|-------|-----|--------|
| Hardness as CaCO3 |       | 1   | 20     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: TDS220927B

Surrogates: No, QC Types: BLK/LCS/DUP

#### Blank (BLK)

Lab Sample ID: TDS220927B.LRB1

Run in Batch: TDS220927B, Run Date: 09/27/2022 18:00, Prep Date: 09/27/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | Conc | RDL | Units |
|------------------------|-------|------|-----|-------|
| Total Dissolved Solids |       | ND   | 50  | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: TDS220927B.LCS1

Run in Batch: TDS220927B, Run Date: 09/27/2022 18:00, Prep Date: 09/27/2022, Matrix: Liquid, Dilution: 4

| Analyte                | Flags | % Rec | LCL | UCL |
|------------------------|-------|-------|-----|-----|
| Total Dissolved Solids |       | 102.3 | 90  | 110 |

#### Duplicate (DUP)

Lab Sample ID: TDS220927B.DP1, Parent Sample ID: S40737.02

Run in Batch: TDS220927B, Run Date: 09/27/2022 18:00, Prep Date: 09/27/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | RPD | RPD CL |
|------------------------|-------|-----|--------|
| Total Dissolved Solids |       | 0.5 | 10     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: TDS220930

Surrogates: No, QC Types: BLK/LCS/DUP

#### Blank (BLK)

Lab Sample ID: TDS220930.LRB1

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | Conc | RDL | Units |
|------------------------|-------|------|-----|-------|
| Total Dissolved Solids |       | ND   | 50  | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: TDS220930.LCS1

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 4

| Analyte                | Flags | % Rec | LCL | UCL |
|------------------------|-------|-------|-----|-----|
| Total Dissolved Solids |       | 100.6 | 90  | 110 |

#### Duplicate (DUP)

Lab Sample ID: TDS220930.DP1, Parent Sample ID: S40775.04

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | RPD | RPD CL |
|------------------------|-------|-----|--------|
| Total Dissolved Solids |       | 0.9 | 10     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: TSS220928

Surrogates: No, QC Types: BLK/LCS/DUP

#### Blank (BLK)

Lab Sample ID: TSS220928.LRB1

Run in Batch: TSS220928, Run Date: 09/28/2022 20:00, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 1

| Analyte                | Flags | Conc | RDL | Units |
|------------------------|-------|------|-----|-------|
| Total Suspended Solids |       | ND   | 3   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: TSS220928.LCS1

Run in Batch: TSS220928, Run Date: 09/28/2022 20:00, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 10

| Analyte                | Flags | % Rec | LCL  | UCL |
|------------------------|-------|-------|------|-----|
| Total Suspended Solids |       | 99.8  | 78.8 | 113 |

#### Duplicate (DUP)

Lab Sample ID: TSS220928.DP1, Parent Sample ID: S40775.03

Run in Batch: TSS220928, Run Date: 09/28/2022 20:00, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | RPD | RPD CL |
|------------------------|-------|-----|--------|
| Total Suspended Solids |       | 0.5 | 10     |



## QC Report - Batch QC Results

### Metals, Prep Batch ID: HGD-100322-1

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: HG-22-1003A.015.LRB

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 10:29, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL  | Units |
|---------|-------|------|------|-------|
| Mercury |       | ND   | 0.20 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HG-22-1003A.014.LCS

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 10:25, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 92    | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1003A.026.MS, Parent Sample ID: S40775.05

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 11:05, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 93    | 80  | 120 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1003A.040.MS, Parent Sample ID: S40803.03

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 11:51, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 94    | 80  | 120 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1003A.027.MSD, Parent Sample ID: HG-22-1003A.026.MS

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 11:08, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 98    | 80  | 120 | 5   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1003A.041.MSD, Parent Sample ID: HG-22-1003A.040.MS

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 11:54, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 97    | 80  | 120 | 3   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-092822-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-0928A.022.LRB

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 11:43, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL    | Units |
|-----------|-------|------|--------|-------|
| Antimony  |       | ND   | 0.001  | mg/L  |
| Arsenic   |       | ND   | 0.0004 | mg/L  |
| Barium    |       | ND   | 0.001  | mg/L  |
| Beryllium |       | ND   | 0.0002 | mg/L  |
| Cadmium   |       | ND   | 0.0001 | mg/L  |
| Chromium  |       | ND   | 0.001  | mg/L  |
| Cobalt    |       | ND   | 0.001  | mg/L  |
| Copper    |       | ND   | 0.001  | mg/L  |
| Iron      |       | ND   | 0.004  | mg/L  |
| Lead      |       | ND   | 0.0006 | mg/L  |
| Manganese |       | ND   | 0.001  | mg/L  |
| Nickel    |       | ND   | 0.001  | mg/L  |
| Selenium  |       | ND   | 0.001  | mg/L  |
| Silver    |       | ND   | 0.0001 | mg/L  |
| Thallium  |       | ND   | 0.0004 | mg/L  |
| Vanadium  |       | ND   | 0.001  | mg/L  |
| Zinc      |       | ND   | 0.001  | mg/L  |

#### Blank (BLK)

Lab Sample ID: MT4-22-0928B.014.LRB

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:04, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL  | Units |
|-----------|-------|------|------|-------|
| Calcium   |       | ND   | 0.05 | mg/L  |
| Magnesium |       | ND   | 0.05 | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-0928A.020.LCS

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 11:38, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 100   | 85  | 115 |
| Arsenic   |       | 101   | 85  | 115 |
| Barium    |       | 100   | 85  | 115 |
| Beryllium |       | 99    | 85  | 115 |
| Cadmium   |       | 102   | 85  | 115 |
| Chromium  |       | 101   | 85  | 115 |
| Cobalt    |       | 99    | 85  | 115 |
| Copper    |       | 101   | 85  | 115 |
| Iron      |       | 108   | 85  | 115 |
| Lead      |       | 100   | 85  | 115 |
| Manganese |       | 102   | 85  | 115 |
| Nickel    |       | 103   | 85  | 115 |
| Selenium  |       | 95    | 85  | 115 |
| Silver    |       | 101   | 85  | 115 |
| Thallium  |       | 101   | 85  | 115 |
| Vanadium  |       | 103   | 85  | 115 |
| Zinc      |       | 103   | 85  | 115 |

# QC Report - Batch QC Results

**Metals, Prep Batch ID: MTD-092822-2 (continued)**

Surrogates: No, QC Types: BLK/LCS/MS/MSD

**Laboratory Control Sample (LCS)**

Lab Sample ID: MT4-22-0928B.013.LCS

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:03, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 98    | 85  | 115 |
| Magnesium |       | 101   | 85  | 115 |

**Matrix Spike (MS)**

Lab Sample ID: MT4-22-0928A.043.MS, Parent Sample ID: S40775.02

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 12:40, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 75  | 125 |
| Arsenic   |       | 111   | 75  | 125 |
| Barium    |       | 101   | 75  | 125 |
| Beryllium |       | 105   | 75  | 125 |
| Cadmium   |       | 107   | 75  | 125 |
| Chromium  |       | 109   | 75  | 125 |
| Cobalt    |       | 107   | 75  | 125 |
| Copper    |       | 105   | 75  | 125 |
| Iron      |       | 112   | 75  | 125 |
| Lead      |       | 97    | 75  | 125 |
| Manganese |       | 108   | 75  | 125 |
| Nickel    |       | 109   | 75  | 125 |
| Selenium  |       | 112   | 75  | 125 |
| Silver    |       | 96    | 75  | 125 |
| Thallium  |       | 98    | 75  | 125 |
| Vanadium  |       | 114   | 75  | 125 |
| Zinc      |       | 113   | 75  | 125 |

**Matrix Spike (MS)**

Lab Sample ID: MT4-22-0928A.071.MS, Parent Sample ID: S40782.09

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 13:35, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 75  | 125 |
| Arsenic   |       | 112   | 75  | 125 |
| Barium    |       | 104   | 75  | 125 |
| Beryllium |       | 102   | 75  | 125 |
| Cadmium   |       | 107   | 75  | 125 |
| Chromium  |       | 110   | 75  | 125 |
| Cobalt    |       | 107   | 75  | 125 |
| Copper    |       | 105   | 75  | 125 |
| Iron      | *     | 72    | 75  | 125 |
| Lead      |       | 92    | 75  | 125 |
| Manganese |       | 105   | 75  | 125 |
| Nickel    |       | 104   | 75  | 125 |
| Selenium  |       | 111   | 75  | 125 |
| Silver    |       | 95    | 75  | 125 |
| Thallium  |       | 93    | 75  | 125 |
| Vanadium  |       | 114   | 75  | 125 |
| Zinc      |       | 108   | 75  | 125 |

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-092822-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike (MS)

Lab Sample ID: MT4-22-0928B.036.MS, Parent Sample ID: S40775.02

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:25, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   | *     | 71    | 75  | 125 |
| Magnesium |       | 101   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-0928B.050.MS, Parent Sample ID: S40782.09

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:40, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 108   | 75  | 125 |
| Magnesium |       | 116   | 75  | 125 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-0928A.044.MSD, Parent Sample ID: MT4-22-0928A.043.MS

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 12:42, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 100   | 75  | 125 | 3   | 20     |
| Arsenic   |       | 112   | 75  | 125 | 1   | 20     |
| Barium    |       | 104   | 75  | 125 | 2   | 20     |
| Beryllium |       | 102   | 75  | 125 | 3   | 20     |
| Cadmium   |       | 109   | 75  | 125 | 2   | 20     |
| Chromium  |       | 111   | 75  | 125 | 1   | 20     |
| Cobalt    |       | 108   | 75  | 125 | 1   | 20     |
| Copper    |       | 107   | 75  | 125 | 2   | 20     |
| Iron      |       | 112   | 75  | 125 | 0   | 20     |
| Lead      |       | 96    | 75  | 125 | 1   | 20     |
| Manganese |       | 112   | 75  | 125 | 1   | 20     |
| Nickel    |       | 106   | 75  | 125 | 3   | 20     |
| Selenium  |       | 121   | 75  | 125 | 8   | 20     |
| Silver    |       | 98    | 75  | 125 | 2   | 20     |
| Thallium  |       | 96    | 75  | 125 | 2   | 20     |
| Vanadium  |       | 112   | 75  | 125 | 2   | 20     |
| Zinc      |       | 115   | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-0928A.072.MSD, Parent Sample ID: MT4-22-0928A.071.MS

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 13:37, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 99    | 75  | 125 | 2   | 20     |
| Arsenic   |       | 108   | 75  | 125 | 4   | 20     |
| Barium    |       | 100   | 75  | 125 | 2   | 20     |
| Beryllium |       | 107   | 75  | 125 | 5   | 20     |
| Cadmium   |       | 108   | 75  | 125 | 0   | 20     |
| Chromium  |       | 109   | 75  | 125 | 1   | 20     |
| Cobalt    |       | 106   | 75  | 125 | 2   | 20     |
| Copper    |       | 104   | 75  | 125 | 1   | 20     |
| Iron      | *     | 68    | 75  | 125 | 0   | 20     |
| Lead      |       | 92    | 75  | 125 | 1   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-092822-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-22-0928A.072.MSD, Parent Sample ID: MT4-22-0928A.071.MS

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 13:37, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Manganese |       | 97    | 75  | 125 | 2   | 20     |
| Nickel    |       | 106   | 75  | 125 | 1   | 20     |
| Selenium  |       | 114   | 75  | 125 | 2   | 20     |
| Silver    |       | 97    | 75  | 125 | 2   | 20     |
| Thallium  |       | 94    | 75  | 125 | 1   | 20     |
| Vanadium  |       | 114   | 75  | 125 | 0   | 20     |
| Zinc      |       | 112   | 75  | 125 | 3   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-0928B.037.MSD, Parent Sample ID: MT4-22-0928B.036.MS

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:26, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Calcium   |       | 100   | 75  | 125 | 2   | 20     |
| Magnesium |       | 102   | 75  | 125 | 0   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-0928B.051.MSD, Parent Sample ID: MT4-22-0928B.050.MS

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:41, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Calcium   |       | 100   | 75  | 125 | 1   | 20     |
| Magnesium |       | 112   | 75  | 125 | 1   | 20     |

## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22093003.sblk-w.01

Run in Batch: A220930, Run Date: 09/30/2022 10:50, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:15, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 88.84 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22093005.slcs-w.01d, Parent Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:30, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------|-------|-------|------|-------|-----|--------|
| PCB-1016/1260 |       | 86.44 | 50.0 | 125.0 | 2.7 | 20.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220929W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 220929D3.BLKW29B

Run in Batch: 220929D3, Run Date: 09/30/2022 01:53, Prep Date: 07/29/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220929W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Blank (BLK) (continued)

Lab Sample ID: 220929D3.BLKW29B

Run in Batch: 220929D3, Run Date: 09/30/2022 01:53, Prep Date: 07/29/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 220929D3.LCSW29B

Run in Batch: 220929D3, Run Date: 09/30/2022 00:19, Prep Date: 07/29/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        | *     | 162.9 | 29.9 | 161.5 |
| 2-Butanone (MEK)               | *     | 143.8 | 44.0 | 134.4 |
| Benzene                        |       | 117.8 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 124.2 | 80.4 | 128.2 |
| Bromoform                      | *     | 137.9 | 69.4 | 128.0 |
| Bromomethane                   |       | 119.8 | 56.8 | 151.3 |
| Carbon disulfide               |       | 109.9 | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 120.7 | 72.6 | 133.0 |
| Chlorobenzene                  | *     | 125.3 | 79.2 | 122.7 |
| Chloroethane                   |       | 112.5 | 53.4 | 149.4 |
| Chloroform                     |       | 117.0 | 78.4 | 124.0 |
| Chloromethane                  |       | 115.9 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 138.0 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 120.4 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 119.8 | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 122.5 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 119.5 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 120.8 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 116.2 | 76.6 | 122.1 |
| Dibromochloromethane           | *     | 130.6 | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 100.6 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 113.3 | 73.6 | 129.3 |
| Ethylbenzene                   |       | 123.0 | 79.5 | 129.1 |
| 2-Hexanone                     | *     | 137.1 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    | *     | 126.3 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 113.8 | 73.2 | 122.4 |
| Methylene chloride             |       | 115.2 | 73.3 | 121.1 |
| Styrene                        | *     | 128.4 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 115.2 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          | *     | 125.3 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 111.4 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 120.1 | 74.5 | 124.5 |
| Toluene                        |       | 113.5 | 79.8 | 124.5 |
| Trichloroethene                |       | 116.5 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 122.2 | 59.7 | 151.8 |
| Vinyl chloride                 |       | 112.3 | 43.5 | 149.1 |
| o-Xylene                       |       | 124.3 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 122.9 | 79.4 | 132.2 |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220929W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 220929D3.LCSW29B

Run in Batch: 220929D3, Run Date: 09/30/2022 00:19, Prep Date: 07/29/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      | *     | 123.2 | 74.4 | 121.5 |
| Cyclohexane                           |       | 104.9 | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 113.2 | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 111.9 | 69.6 | 139.4 |
| Methyl Acetate                        | *     | 133.5 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 96.6  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 109.2 | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 128.3 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             | *     | 132.1 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 121.2 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 124.2 | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220929D3.LCSDW29B, Parent Sample ID: 220929D3.LCSW29B

Run in Batch: 220929D3, Run Date: 09/30/2022 00:42, Prep Date: 07/29/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------------------------|-------|-------|------|-------|-----|--------|
| Acetone                        |       | 158.9 | 29.9 | 161.5 | 2.5 | 30.0   |
| 2-Butanone (MEK)               | *     | 138.4 | 44.0 | 134.4 | 3.8 | 30.0   |
| Benzene                        |       | 119.3 | 79.9 | 124.9 | 1.2 | 30.0   |
| Bromodichloromethane           |       | 127.2 | 80.4 | 128.2 | 2.3 | 30.0   |
| Bromoform                      | *     | 140.8 | 69.4 | 128.0 | 2.1 | 30.0   |
| Bromomethane                   |       | 121.3 | 56.8 | 151.3 | 1.3 | 30.0   |
| Carbon disulfide               |       | 110.6 | 63.8 | 137.4 | 0.7 | 30.0   |
| Carbon tetrachloride           |       | 120.7 | 72.6 | 133.0 | 0.0 | 30.0   |
| Chlorobenzene                  | *     | 129.1 | 79.2 | 122.7 | 3.0 | 30.0   |
| Chloroethane                   |       | 112.2 | 53.4 | 149.4 | 0.3 | 30.0   |
| Chloroform                     |       | 118.9 | 78.4 | 124.0 | 1.7 | 30.0   |
| Chloromethane                  |       | 117.8 | 23.8 | 166.5 | 1.6 | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 139.5 | 21.2 | 189.4 | 1.0 | 30.0   |
| 1,2-Dichlorobenzene            |       | 129.0 | 10.0 | 166.2 | 6.9 | 30.0   |
| 1,2-Dichloroethane             |       | 124.1 | 76.0 | 126.3 | 3.5 | 30.0   |
| 1,2-Dichloropropane            |       | 122.5 | 78.6 | 126.4 | 0.0 | 30.0   |
| 1,3-Dichlorobenzene            |       | 127.6 | 77.0 | 131.3 | 6.5 | 30.0   |
| 1,4-Dichlorobenzene            |       | 128.0 | 20.7 | 137.7 | 5.8 | 30.0   |
| cis-1,2-Dichloroethene         |       | 118.4 | 76.6 | 122.1 | 1.9 | 30.0   |
| Dibromochloromethane           | *     | 137.0 | 74.6 | 127.2 | 4.8 | 30.0   |
| Dichlorodifluoromethane        |       | 102.0 | 10.0 | 222.8 | 1.4 | 30.0   |
| trans-1,2-Dichloroethene       |       | 113.7 | 73.6 | 129.3 | 0.3 | 30.0   |
| Ethylbenzene                   |       | 125.7 | 79.5 | 129.1 | 2.2 | 30.0   |
| 2-Hexanone                     |       | 129.5 | 55.4 | 136.9 | 5.7 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 121.9 | 71.6 | 125.2 | 3.5 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 114.7 | 73.2 | 122.4 | 0.9 | 30.0   |
| Methylene chloride             |       | 118.1 | 73.3 | 121.1 | 2.4 | 30.0   |
| Styrene                        | *     | 131.2 | 69.5 | 126.7 | 2.2 | 30.0   |
| 1,1,1-Trichloroethane          |       | 115.1 | 79.4 | 130.9 | 0.1 | 30.0   |
| 1,1,2-Trichloroethane          | *     | 127.0 | 78.7 | 123.1 | 1.4 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF220929W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 220929D3.LCSDW29B, Parent Sample ID: 220929D3.LCSW29B

Run in Batch: 220929D3, Run Date: 09/30/2022 00:42, Prep Date: 07/29/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 117.8 | 27.4 | 143.4 | 5.6 | 30.0   |
| Tetrachloroethene                     |       | 119.9 | 74.5 | 124.5 | 0.1 | 30.0   |
| Toluene                               |       | 115.3 | 79.8 | 124.5 | 1.6 | 30.0   |
| Trichloroethene                       |       | 117.5 | 79.7 | 124.2 | 0.8 | 30.0   |
| Trichlorofluoromethane                |       | 122.5 | 59.7 | 151.8 | 0.3 | 30.0   |
| Vinyl chloride                        |       | 114.6 | 43.5 | 149.1 | 2.0 | 30.0   |
| o-Xylene                              |       | 128.1 | 80.2 | 131.0 | 3.0 | 30.0   |
| p,m-Xylene                            |       | 125.7 | 79.4 | 132.2 | 2.3 | 30.0   |
| Isopropylbenzene                      | *     | 125.8 | 74.4 | 121.5 | 2.1 | 30.0   |
| Cyclohexane                           |       | 105.4 | 10.0 | 169.1 | 0.5 | 30.0   |
| 1,1-Dichloroethane                    |       | 115.9 | 71.5 | 126.2 | 2.3 | 30.0   |
| 1,1-Dichloroethene                    |       | 111.4 | 69.6 | 139.4 | 0.4 | 30.0   |
| Methyl Acetate                        | *     | 132.5 | 64.7 | 125.4 | 0.8 | 30.0   |
| Methyl cyclohexane                    |       | 95.6  | 76.6 | 131.3 | 1.1 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 108.2 | 75.1 | 135.9 | 0.9 | 30.0   |
| 1,2-Dibromoethane                     | *     | 134.3 | 70.3 | 133.7 | 4.6 | 30.0   |
| 1,1,2,2-Tetrachloroethane             | *     | 136.5 | 79.8 | 126.3 | 3.2 | 30.0   |
| cis-1,3-Dichloropropene               |       | 123.3 | 79.8 | 129.9 | 1.7 | 30.0   |
| trans-1,3-Dichloropropene             |       | 127.4 | 74.0 | 131.3 | 2.5 | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | Conc | RDL  | Units |
|-------------|-------|------|------|-------|
| 1,4-Dioxane | *     | 0.33 | 0.02 | ug/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   |
|-------------|-------|-------|------|-------|
| 1,4-Dioxane |       | 90.5  | 70.0 | 130.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-------------|-------|-------|------|-------|-----|--------|
| 1,4-Dioxane |       | 90.2  | 70.0 | 130.0 | 0.4 | 30.0   |

## REPORT TO

## CHAIN OF CUSTODY RECORD

**INVOICE TO**

|                                                                       |               |                            |                   |
|-----------------------------------------------------------------------|---------------|----------------------------|-------------------|
| CONTACT NAME<br>ALEXIS CRISP                                          |               |                            |                   |
| COMPANY<br>ARCADIS                                                    |               |                            |                   |
| ADDRESS<br>28550 CABOT DR #500                                        |               |                            |                   |
| CITY<br>NOVI                                                          |               | STATE<br>MI                | ZIP CODE<br>48377 |
| PHONE NO.<br>—                                                        | CELL NO.<br>— | P.O. NO.<br>30112891.00006 |                   |
| E-MAIL ADDRESS<br>ALEXIS.CRISP@ARCADIS.COM TIFFANY.LUNDER@ARCADIS.COM |               | QUOTE NO.<br>—             |                   |

|                 |  |                                            |  |                               |  |
|-----------------|--|--------------------------------------------|--|-------------------------------|--|
| CONTACT NAME    |  | ACCOUNTS PAYABLE                           |  | <input type="checkbox"/> SAME |  |
| COMPANY         |  | ARCADIS                                    |  |                               |  |
| ADDRESS         |  | 630 PLAZA DR STE # 600                     |  |                               |  |
| CITY            |  | STATE                                      |  | ZIP CODE                      |  |
| HIGHLANDS RANCH |  | CO                                         |  | 80129                         |  |
| PHONE NO.       |  | E-MAIL ADDRESS                             |  |                               |  |
| —               |  | ACCOUNTSPAYABLE.ADMINISTRATION@ARCADIS.COM |  |                               |  |

## ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

|                                                                                                                                                                                                                                             |                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| PROJECT NO./NAME<br>PACER PNC / 30112891.00006                                                                                                                                                                                              | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br>CHRISTINA WEIN |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER                                         |                                                       |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER |                                                       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |                  |                                |                  |                                |       |      |       |                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------|--------------------------------|------------------|--------------------------------|-------|------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div style="display: flex; justify-content: space-between;"> <div> <p><b># Containers &amp; Preservatives</b></p> <table border="1"> <tr> <td>NONE</td> <td>HCl</td> <td>HNO<sub>3</sub></td> <td>H<sub>2</sub>SO<sub>4</sub></td> <td>NaOH</td> <td>MeOH</td> <td>OTHER</td> </tr> </table> </div> <div> <p><b>SITE SPECIFIC</b></p> <p>VOC's B260D</p> <p>1,4-DIOXANE</p> <p>B260 SEM</p> <p>INORGANICS - METALS</p> <p>(METALS)</p> <p>MONITORING GEOCHEM</p> <p>PCBs</p> </div> </div> |     | NONE             | HCl                            | HNO <sub>3</sub> | H <sub>2</sub> SO <sub>4</sub> | NaOH  | MeOH | OTHER | <p><b>Certifications</b></p> <p><input type="checkbox"/> OHIO VAP    <input type="checkbox"/> Drinking Water</p> <p><input type="checkbox"/> DoD            <input type="checkbox"/> NPDES</p> <p><b>Project Locations</b></p> <p><input type="checkbox"/> Detroit            <input type="checkbox"/> New York</p> <p><input type="checkbox"/> Other _____</p> <p><b>Special Instructions</b></p> |
| NONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | HCl | HNO <sub>3</sub> | H <sub>2</sub> SO <sub>4</sub> | NaOH             | MeOH                           | 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]

| None | HCl | HNO <sub>3</sub> | H <sub>2</sub> SO <sub>4</sub> | NaOH | MeOH | OTHER | Site | VOCs | 1,4-dioxin | PCBs | MOA | PCB | Other | Special Instructions                        |
|------|-----|------------------|--------------------------------|------|------|-------|------|------|------------|------|-----|-----|-------|---------------------------------------------|
| 1    |     |                  |                                |      |      |       | X    |      |            |      |     |     |       | TRIP BLANK                                  |
| 31   |     |                  |                                |      |      |       | X    | X    | X          | X    | X   |     |       | ONLY COLLECTED 1-1L AMBER FOR PCBs.         |
| 131  |     |                  |                                |      |      |       | X    |      | X          | X    | X   |     |       |                                             |
| 132  |     |                  |                                |      |      |       | X    |      | X          | X    | X   |     |       | ONE FIELD FILTERED HNO <sub>3</sub> -125 mL |
| 131  |     |                  |                                |      |      |       | X    | X    | X          | X    | X   |     |       |                                             |
| 131  |     |                  |                                |      |      |       | X    |      | X          | X    | X   |     |       |                                             |
| 131  |     |                  |                                |      |      |       | X    |      | X          | X    | X   |     |       |                                             |

|                        |                        |         |         |       |
|------------------------|------------------------|---------|---------|-------|
| RELINQUISHED BY:       | <i>Chen H. LAROCHE</i> | Sampler | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                        |         | 9/27/22 | 13:40 |
| RECEIVED BY:           | <i>J. Miller</i>       |         | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                        |         | 9/27/22 | 15:40 |
| RELINQUISHED BY:       | <i>J. Miller</i>       |         | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                        |         | 9/27/22 | 15:40 |
| RECEIVED BY:           | <i>M. Culaco</i>       |         | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                        |         | 9/27/22 | 15:40 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>4.0</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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



# Analytical Laboratory Report

Report ID: S40782.01(01)  
Generated on 10/11/2022

## 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, Ian Drost

## 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): S40782.01-S40782.10  
Project: 30112891.00006 / Racer PNC  
Collected Date(s): 09/26/2022 - 09/27/2022  
Submitted Date/Time: 09/27/2022 15:40  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                                                |
|---------------|------------------------------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                                          |
| E245.1        | EPA Method 245.1 Revision 3.0                                          |
| E608.3        | EPA Method 608.3 December 2016                                         |
| N/A           | Not Applicable                                                         |
| SM2320B       | Standard Method 2320 B 2011                                            |
| SM2340C       | Standard Method 2340 C 2011                                            |
| SM2540C       | Standard Method 2540 C 2015                                            |
| SM2540D       | Standard Method 2540 D 2015                                            |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007                           |
| SW5030C/8260C | SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003 |
| SW8260B - SIM | SW 846 Method 8260B Revision 2 December 1996 SIMs                      |





## Analytical Laboratory Report

### Sample Summary (10 samples)

| Sample ID | Sample Tag             | Matrix      | Collected Date/Time |
|-----------|------------------------|-------------|---------------------|
| S40782.01 | MWW1-15_GW-092622      | Groundwater | 09/26/22 10:15      |
| S40782.02 | MW-01-17_GW-092622     | Groundwater | 09/26/22 11:45      |
| S40782.03 | MW-01-17_GW-092622 MS  | Groundwater | 09/26/22 11:45      |
| S40782.04 | MW-01-17_GW-092622 MSD | Groundwater | 09/26/22 11:45      |
| S40782.05 | MW-03-17_GW-092622     | Groundwater | 09/26/22 13:40      |
| S40782.06 | MW-04-17_GW-092622     | Groundwater | 09/26/22 14:55      |
| S40782.07 | Tripblank_55           | Water       | 09/26/22 00:01      |
| S40782.08 | MW-40-99_GW-092722     | Groundwater | 09/27/22 11:00      |
| S40782.09 | TW-MD-02_GW-092722     | Groundwater | 09/27/22 12:20      |
| S40782.10 | DUP-01_GW-092722       | Groundwater | 09/27/22 00:01      |



# Analytical Laboratory Report

Lab Sample ID: S40782.01

Sample Tag: MWW1-15\_GW-092622

Collected Date/Time: 09/26/2022 10:15

Matrix: Groundwater

COC Reference: 157355

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 4.0               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 4.0               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 4.0               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 4.0               | IR            |
| 2 | 1L Amber      | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 12:00 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 09/28/22 09:45 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/03/22 16:46, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 482    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:26, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 355    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,250  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 09/28/22 20:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 26     | 3  |     | mg/L  | 1        |      |       |

## Metals

Method: E200.8, Run Date: 09/28/22 12:38, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Arsenic   | 0.004        | 0.002  |     | mg/L  | 5        | 7440-38-2 |       |
| Barium    | 0.248        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 12.1         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.368        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.01 (continued)

Sample Tag: MWW1-15\_GW-092622

Method: E200.8, Run Date: 09/28/22 12:38, Analyst: CCM (continued)

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

Method: E200.8, Run Date: 09/28/22 15:23, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 136    | 0.50 |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 50.8   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 11:28, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 09/30/22 12:18, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 13:45, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |
| Dibromochloromethane        | Not detected | 5  |     | ug/L  | 1        | 124-48-1 |       |
| Dichlorodifluoromethane     | Not detected | 5  |     | ug/L  | 1        | 75-71-8  |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.01 (continued)

Sample Tag: MWW1-15\_GW-092622

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 13:45, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.02

Sample Tag: MW-01-17\_GW-092622

Collected Date/Time: 09/26/2022 11:45

Matrix: Groundwater

COC Reference: 157355

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/07/22 22:41, Analyst: KAG

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 4      | 1  |     | ug/L  | 1        | 123-91-1 |       |

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 12:43, Analyst: BML

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.02 (continued)

Sample Tag: MW-01-17\_GW-092622

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 12:43, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.03

Sample Tag: MW-01-17\_GW-092622 MS

Collected Date/Time: 09/26/2022 11:45

Matrix: Groundwater

COC Reference: 157355

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/07/22 20:34, Analyst: KAG

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 53     | 1  |     | ug/L  | 1        | 123-91-1 | 1     |

## Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 10:08, Analyst: BML

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   | 1     |
| 2-Butanone (MEK)               | 49           | 25 |     | ug/L  | 1        | 78-93-3   | 1     |
| Benzene                        | 53           | 1  |     | ug/L  | 1        | 71-43-2   | 1     |
| Bromodichloromethane           | 52           | 1  |     | ug/L  | 1        | 75-27-4   | 1     |
| Bromoform                      | 50           | 1  |     | ug/L  | 1        | 75-25-2   | 1     |
| Bromomethane                   | 56           | 5  |     | ug/L  | 1        | 74-83-9   | 1     |
| Carbon disulfide               | 51           | 5  |     | ug/L  | 1        | 75-15-0   | 1     |
| Carbon tetrachloride           | 49           | 1  |     | ug/L  | 1        | 56-23-5   | 1     |
| Chlorobenzene                  | 52           | 1  |     | ug/L  | 1        | 108-90-7  | 1     |
| Chloroethane                   | 56           | 5  |     | ug/L  | 1        | 75-00-3   | 1     |
| Chloroform                     | 53           | 1  |     | ug/L  | 1        | 67-66-3   | 1     |
| Chloromethane                  | 62           | 5  |     | ug/L  | 1        | 74-87-3   | 1     |
| 1,2-Dibromo-3-chloropropane    | 52           | 5  |     | ug/L  | 1        | 96-12-8   | 1     |
| 1,2-Dichlorobenzene            | 50           | 1  |     | ug/L  | 1        | 95-50-1   | 1     |
| 1,2-Dichloroethane             | 49           | 1  |     | ug/L  | 1        | 107-06-2  | 1     |
| 1,2-Dichloropropane            | 54           | 1  |     | ug/L  | 1        | 78-87-5   | 1     |
| 1,3-Dichlorobenzene            | 49           | 1  |     | ug/L  | 1        | 541-73-1  | 1     |
| 1,4-Dichlorobenzene            | 50           | 1  |     | ug/L  | 1        | 106-46-7  | 1     |
| cis-1,2-Dichloroethene         | 53           | 1  |     | ug/L  | 1        | 156-59-2  | 1     |
| Dibromochloromethane           | 52           | 5  |     | ug/L  | 1        | 124-48-1  | 1     |
| Dichlorodifluoromethane        | 53           | 5  |     | ug/L  | 1        | 75-71-8   | 1     |
| trans-1,2-Dichloroethene       | 53           | 1  |     | ug/L  | 1        | 156-60-5  | 1     |
| Ethylbenzene                   | 51           | 1  |     | ug/L  | 1        | 100-41-4  | 1     |
| 2-Hexanone                     | 55           | 50 |     | ug/L  | 1        | 591-78-6  | 1     |
| 4-Methyl-2-pentanone (MIBK)    | 55           | 50 |     | ug/L  | 1        | 108-10-1  | 1     |
| tert-Methyl butyl ether (MTBE) | 55           | 5  |     | ug/L  | 1        | 1634-04-4 | 1     |
| Methylene chloride             | 55           | 5  |     | ug/L  | 1        | 75-09-2   | 1     |
| Styrene                        | 51           | 1  |     | ug/L  | 1        | 100-42-5  | 1     |
| 1,1,1-Trichloroethane          | 50           | 1  |     | ug/L  | 1        | 71-55-6   | 1     |
| 1,1,2-Trichloroethane          | 53           | 1  |     | ug/L  | 1        | 79-00-5   | 1     |
| 1,2,4-Trichlorobenzene         | 51           | 5  |     | ug/L  | 1        | 120-82-1  | 1     |
| Tetrachloroethene              | 50           | 1  |     | ug/L  | 1        | 127-18-4  | 1     |

1-Spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S40782.03 (continued)  
Sample Tag: MW-01-17\_GW-092622 MS

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 10:08, Analyst: BML (continued)**

| Parameter                             | Result | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------|----|-----|-------|----------|------------|-------|
| Toluene                               | 52     | 1  |     | ug/L  | 1        | 108-88-3   | 1     |
| Trichloroethene                       | 52     | 1  |     | ug/L  | 1        | 79-01-6    | 1     |
| Trichlorofluoromethane                | 56     | 1  |     | ug/L  | 1        | 75-69-4    | 1     |
| Vinyl chloride                        | 62     | 1  |     | ug/L  | 1        | 75-01-4    | 1     |
| o-Xylene                              | 52     | 1  |     | ug/L  | 1        | 95-47-6    | 1     |
| p,m-Xylene*                           | 101    | 2  |     | ug/L  | 1        |            | 1     |
| Isopropylbenzene                      | 50     | 1  |     | ug/L  | 1        | 98-82-8    | 1     |
| Cyclohexane                           | 49     | 1  |     | ug/L  | 1        | 110-82-7   | 1     |
| 1,1-Dichloroethane                    | 54     | 1  |     | ug/L  | 1        | 75-34-3    | 1     |
| 1,1-Dichloroethene                    | 50     | 1  |     | ug/L  | 1        | 75-35-4    | 1     |
| Methyl Acetate                        | 48     | 10 |     | ug/L  | 1        | 79-20-9    | 1     |
| Methyl cyclohexane                    | 50     | 1  |     | ug/L  | 1        | 108-87-2   | 1     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 50     | 1  |     | ug/L  | 1        | 76-13-1    | 1     |
| 1,2-Dibromoethane                     | 53     | 1  |     | ug/L  | 1        | 106-93-4   | 1     |
| 1,1,2,2-Tetrachloroethane             | 51     | 1  |     | ug/L  | 1        | 79-34-5    | 1     |
| cis-1,3-Dichloropropene               | 54     | 1  |     | ug/L  | 1        | 10061-01-5 | 1     |
| trans-1,3-Dichloropropene             | 54     | 1  |     | ug/L  | 1        | 10061-02-6 | 1     |

1-Spiked at 50ug/L





# Analytical Laboratory Report

Lab Sample ID: S40782.04

Sample Tag: MW-01-17\_GW-092622 MSD

Collected Date/Time: 09/26/2022 11:45

Matrix: Groundwater

COC Reference: 157355

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/07/22 20:54, Analyst: KAG

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 51     | 1  |     | ug/L  | 1        | 123-91-1 | 1     |

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 10:27, Analyst: BML

| Parameter                      | Result | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------|----|-----|-------|----------|-----------|-------|
| Acetone                        | 53     | 50 |     | ug/L  | 1        | 67-64-1   | 1     |
| 2-Butanone (MEK)               | 53     | 25 |     | ug/L  | 1        | 78-93-3   | 1     |
| Benzene                        | 52     | 1  |     | ug/L  | 1        | 71-43-2   | 1     |
| Bromodichloromethane           | 51     | 1  |     | ug/L  | 1        | 75-27-4   | 1     |
| Bromoform                      | 50     | 1  |     | ug/L  | 1        | 75-25-2   | 1     |
| Bromomethane                   | 54     | 5  |     | ug/L  | 1        | 74-83-9   | 1     |
| Carbon disulfide               | 50     | 5  |     | ug/L  | 1        | 75-15-0   | 1     |
| Carbon tetrachloride           | 47     | 1  |     | ug/L  | 1        | 56-23-5   | 1     |
| Chlorobenzene                  | 50     | 1  |     | ug/L  | 1        | 108-90-7  | 1     |
| Chloroethane                   | 54     | 5  |     | ug/L  | 1        | 75-00-3   | 1     |
| Chloroform                     | 51     | 1  |     | ug/L  | 1        | 67-66-3   | 1     |
| Chloromethane                  | 60     | 5  |     | ug/L  | 1        | 74-87-3   | 1     |
| 1,2-Dibromo-3-chloropropane    | 54     | 5  |     | ug/L  | 1        | 96-12-8   | 1     |
| 1,2-Dichlorobenzene            | 50     | 1  |     | ug/L  | 1        | 95-50-1   | 1     |
| 1,2-Dichloroethane             | 49     | 1  |     | ug/L  | 1        | 107-06-2  | 1     |
| 1,2-Dichloropropane            | 52     | 1  |     | ug/L  | 1        | 78-87-5   | 1     |
| 1,3-Dichlorobenzene            | 49     | 1  |     | ug/L  | 1        | 541-73-1  | 1     |
| 1,4-Dichlorobenzene            | 49     | 1  |     | ug/L  | 1        | 106-46-7  | 1     |
| cis-1,2-Dichloroethene         | 52     | 1  |     | ug/L  | 1        | 156-59-2  | 1     |
| Dibromochloromethane           | 51     | 5  |     | ug/L  | 1        | 124-48-1  | 1     |
| Dichlorodifluoromethane        | 49     | 5  |     | ug/L  | 1        | 75-71-8   | 1     |
| trans-1,2-Dichloroethene       | 51     | 1  |     | ug/L  | 1        | 156-60-5  | 1     |
| Ethylbenzene                   | 50     | 1  |     | ug/L  | 1        | 100-41-4  | 1     |
| 2-Hexanone                     | 56     | 50 |     | ug/L  | 1        | 591-78-6  | 1     |
| 4-Methyl-2-pentanone (MIBK)    | 58     | 50 |     | ug/L  | 1        | 108-10-1  | 1     |
| tert-Methyl butyl ether (MTBE) | 55     | 5  |     | ug/L  | 1        | 1634-04-4 | 1     |
| Methylene chloride             | 54     | 5  |     | ug/L  | 1        | 75-09-2   | 1     |
| Styrene                        | 50     | 1  |     | ug/L  | 1        | 100-42-5  | 1     |
| 1,1,1-Trichloroethane          | 49     | 1  |     | ug/L  | 1        | 71-55-6   | 1     |
| 1,1,2-Trichloroethane          | 52     | 1  |     | ug/L  | 1        | 79-00-5   | 1     |
| 1,2,4-Trichlorobenzene         | 52     | 5  |     | ug/L  | 1        | 120-82-1  | 1     |
| Tetrachloroethene              | 48     | 1  |     | ug/L  | 1        | 127-18-4  | 1     |

1-Spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S40782.04 (continued)  
Sample Tag: MW-01-17\_GW-092622 MSD

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 10:27, Analyst: BML (continued)**

| Parameter                             | Result | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------|----|-----|-------|----------|------------|-------|
| Toluene                               | 50     | 1  |     | ug/L  | 1        | 108-88-3   | 1     |
| Trichloroethene                       | 50     | 1  |     | ug/L  | 1        | 79-01-6    | 1     |
| Trichlorofluoromethane                | 54     | 1  |     | ug/L  | 1        | 75-69-4    | 1     |
| Vinyl chloride                        | 59     | 1  |     | ug/L  | 1        | 75-01-4    | 1     |
| o-Xylene                              | 50     | 1  |     | ug/L  | 1        | 95-47-6    | 1     |
| p,m-Xylene*                           | 98     | 2  |     | ug/L  | 1        |            | 1     |
| Isopropylbenzene                      | 49     | 1  |     | ug/L  | 1        | 98-82-8    | 1     |
| Cyclohexane                           | 47     | 1  |     | ug/L  | 1        | 110-82-7   | 1     |
| 1,1-Dichloroethane                    | 52     | 1  |     | ug/L  | 1        | 75-34-3    | 1     |
| 1,1-Dichloroethene                    | 49     | 1  |     | ug/L  | 1        | 75-35-4    | 1     |
| Methyl Acetate                        | 49     | 10 |     | ug/L  | 1        | 79-20-9    | 1     |
| Methyl cyclohexane                    | 49     | 1  |     | ug/L  | 1        | 108-87-2   | 1     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 48     | 1  |     | ug/L  | 1        | 76-13-1    | 1     |
| 1,2-Dibromoethane                     | 52     | 1  |     | ug/L  | 1        | 106-93-4   | 1     |
| 1,1,2,2-Tetrachloroethane             | 52     | 1  |     | ug/L  | 1        | 79-34-5    | 1     |
| cis-1,3-Dichloropropene               | 53     | 1  |     | ug/L  | 1        | 10061-01-5 | 1     |
| trans-1,3-Dichloropropene             | 53     | 1  |     | ug/L  | 1        | 10061-02-6 | 1     |

1-Spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S40782.05

Sample Tag: MW-03-17\_GW-092622

Collected Date/Time: 09/26/2022 13:40

Matrix: Groundwater

COC Reference: 157355

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 4.0               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 4.0               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 4.0               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 4.0               | IR            |
| 2 | 1L Amber      | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 12:00 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 09/28/22 09:45 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/03/22 16:48, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 346    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:28, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 298    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,630  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 09/28/22 20:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 18     | 3  |     | mg/L  | 1        |      |       |

## Metals

Method: E200.8, Run Date: 09/28/22 12:50, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Arsenic   | 0.022        | 0.002  |     | mg/L  | 5        | 7440-38-2 |       |
| Barium    | 0.283        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 12.3         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.707        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.05 (continued)

Sample Tag: MW-03-17\_GW-092622

Method: E200.8, Run Date: 09/28/22 12:50, Analyst: CCM (continued)

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

Method: E200.8, Run Date: 09/28/22 15:29, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 122    | 0.50 |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 30.7   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 11:31, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 09/30/22 12:30, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 14:05, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |
| Dibromochloromethane        | Not detected | 5  |     | ug/L  | 1        | 124-48-1 |       |
| Dichlorodifluoromethane     | Not detected | 5  |     | ug/L  | 1        | 75-71-8  |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.05 (continued)

Sample Tag: MW-03-17\_GW-092622

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 14:05, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.06

Sample Tag: MW-04-17\_GW-092622

Collected Date/Time: 09/26/2022 14:55

Matrix: Groundwater

COC Reference: 157355

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 4.0               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 4.0               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 4.0               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 4.0               | IR            |
| 2 | 1L Amber      | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 12:00 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 09/28/22 09:45 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/03/22 16:50, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 346    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:30, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 295    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,560  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 09/28/22 20:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 28     | 3  |     | mg/L  | 1        |      |       |

## Metals

Method: E200.8, Run Date: 09/28/22 12:54, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Arsenic   | 0.013        | 0.002  |     | mg/L  | 5        | 7440-38-2 |       |
| Barium    | 0.245        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 12.5         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.564        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.06 (continued)

Sample Tag: MW-04-17\_GW-092622

Method: E200.8, Run Date: 09/28/22 12:54, Analyst: CCM (continued)

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

Method: E200.8, Run Date: 09/28/22 15:31, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 118    | 0.50 |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 30.0   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 11:35, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 09/30/22 12:41, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 14:24, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |
| Dibromochloromethane        | Not detected | 5  |     | ug/L  | 1        | 124-48-1 |       |
| Dichlorodifluoromethane     | Not detected | 5  |     | ug/L  | 1        | 75-71-8  |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.06 (continued)

Sample Tag: MW-04-17\_GW-092622

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 14:24, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |





# Analytical Laboratory Report

Lab Sample ID: S40782.07

Sample Tag: Tripblank\_55

Collected Date/Time: 09/26/2022 00:01

Matrix: Water

COC Reference: 157355

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 11:45, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.07 (continued)

Sample Tag: Tripblank\_55

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 11:45, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.08

Sample Tag: MW-40-99\_GW-092722

Collected Date/Time: 09/27/2022 11:00

Matrix: Groundwater

COC Reference: 157355

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 4.0               | IR            |
| 2 | 1L Amber   | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method | Run Date       | Analyst | Flags |
|--------------------|-----------|--------|----------------|---------|-------|
| pH check for VOCs* | <2        | N/A    | 10/06/22 13:30 | NDK     |       |
| Extraction, PCB*   | Completed | E608.3 | 09/29/22 13:30 | JWR     |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/03/22 20:06, Analyst: JANB

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

## Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/07/22 23:04, Analyst: KAG

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 6      | 1  |     | ug/L  | 1        | 123-91-1 |       |

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 14:44, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.08 (continued)

Sample Tag: MW-40-99\_GW-092722

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 14:44, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.09

Sample Tag: TW-MD-02\_GW-092722

Collected Date/Time: 09/27/2022 12:20

Matrix: Groundwater

COC Reference: 157355

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 4.0               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 4.0               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 4.0               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 4.0               | IR            |
| 2 | 1L Amber      | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 12:00 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 09/28/22 09:45 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/03/22 16:52, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 344    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:32, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 302    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,390  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 09/28/22 20:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 18     | 3  |     | mg/L  | 1        |      |       |

## Metals

Method: E200.8, Run Date: 09/28/22 12:57, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Arsenic   | 0.008        | 0.002  |     | mg/L  | 5        | 7440-38-2 |       |
| Barium    | 0.228        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 9.52         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.968        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | 0.012        | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.09 (continued)

Sample Tag: TW-MD-02\_GW-092722

**Method: E200.8, Run Date: 09/28/22 12:57, Analyst: CCM (continued)**

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

**Method: E200.8, Run Date: 09/28/22 15:32, Analyst: CCM**

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 128    | 0.50 |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 24.2   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

**Method: E245.1, Run Date: 10/03/22 11:38, Analyst: CTV**

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

**Organics - PCBs/Pesticides**

**PCB, Method: E608.3, Run Date: 10/03/22 20:18, Analyst: JANB**

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

**Organics - Volatiles**

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 15:03, Analyst: BML**

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |
| Dibromochloromethane        | Not detected | 5  |     | ug/L  | 1        | 124-48-1 |       |
| Dichlorodifluoromethane     | Not detected | 5  |     | ug/L  | 1        | 75-71-8  |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.09 (continued)

Sample Tag: TW-MD-02\_GW-092722

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 15:03, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40782.10

Sample Tag: DUP-01\_GW-092722

Collected Date/Time: 09/27/2022 00:01

Matrix: Groundwater

COC Reference: 157355

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 4.0               | IR            |
| 2 | 1L Amber   | None            | Yes           | 4.0               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method | Run Date       | Analyst | Flags |
|--------------------|-----------|--------|----------------|---------|-------|
| pH check for VOCs* | <2        | N/A    | 10/06/22 13:30 | NDK     |       |
| Extraction, PCB*   | Completed | E608.3 | 09/29/22 13:30 | JWR     |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/03/22 20:30, Analyst: JANB

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

## Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/07/22 23:25, Analyst: KAG

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 6      | 1  |     | ug/L  | 1        | 123-91-1 |       |

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/10/22 13:52, Analyst: KAG

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |





# Analytical Laboratory Report

Lab Sample ID: S40782.10 (continued)

Sample Tag: DUP-01\_GW-092722

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/10/22 13:52, Analyst: KAG (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40782

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Submitted:09/27/2022 15:40 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 4.0 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_

## Merit Laboratories Bottle Preservation Check

Lab Set ID: S40782      Submitted: 09/27/2022 15:40

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Initial Preservation Check: 09/27/2022 17:06 PFD

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S40782.01 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40782.05 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40782.06 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40782.09 | 125ml Plastic HNO3    | <2        |        |          |       |



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

C.O.C. PAGE # \_\_\_\_\_ OF \_\_\_\_\_

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# REPORT TO

# CHAIN OF CUSTODY RECORD

# INVOICE

|                |                                                     |                     |       |
|----------------|-----------------------------------------------------|---------------------|-------|
| CONTACT NAME   |                                                     | Alexis Crisp        |       |
| COMPANY        |                                                     | Arcadis             |       |
| ADDRESS        |                                                     | 28550 Cabot Dr #500 |       |
| CITY           | NOVI                                                | STATE               | MI    |
| PHONE NO.      |                                                     | ZIP CODE            | 48377 |
| E-MAIL ADDRESS | tiffany.linder@arcadis.com Alexis.Crisp@arcadis.com |                     |       |

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

|                          |                                                                                                                                                                                                                       |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROJECT NO./NAME         | 3012891.00006 / Racer PNC                                                                                                                                                                                             |
| TURNAROUND TIME REQUIRED | <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER                                            |
| DELIVERABLES REQUIRED    | <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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<br><input type="checkbox"/> OHIO VAP <input type="checkbox"/> Drinking Water<br><input type="checkbox"/> DoD <input type="checkbox"/> NPDES |  |
| Project Locations<br><input type="checkbox"/> Detroit <input type="checkbox"/> New York<br><input type="checkbox"/> Other                                  |  |
| Special Instructions                                                                                                                                       |  |

| MERIT<br>LAB NO.<br>FOR LAB USE ONLY | COLLECTION |      | SAMPLE TAG<br>IDENTIFICATION-DESCRIPTION | MATRIX | # OF<br>BOTTLES | NONE | HCl | HNO <sub>3</sub> | H <sub>2</sub> SO <sub>4</sub> | NaOH | MeOH | OTHER | Site Specific<br>meth | PCB | SS | ALK | SW600 | 8260C | MontC | Other                |            |
|--------------------------------------|------------|------|------------------------------------------|--------|-----------------|------|-----|------------------|--------------------------------|------|------|-------|-----------------------|-----|----|-----|-------|-------|-------|----------------------|------------|
|                                      | DATE       | TIME |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       | Special Instructions |            |
| 4078201                              | 9/26/22    | 1015 | MWW1-15-GW-092622                        | GW     | 8               | 4    | 3   | 1                |                                |      |      |       | X                     | X   | X  | X   | X     | X     | X     |                      |            |
| .02,0304                             | 9/26/22    | 1145 | MW-01-17-GW-092622                       | GW     | 9               |      | 9   |                  |                                |      |      |       | X                     |     |    |     |       | X     |       |                      | Run MS/MSD |
| .05                                  | 9/26/22    | 1340 | MW-03-17-GW-092622                       | GW     | 8               | 4    | 3   | 1                |                                |      |      |       | X                     | X   | X  | X   | X     |       | X     |                      |            |
| .06                                  | 9/26/22    | 1455 | MW-04-17-GW-092622                       | GW     | 8               | 4    | 3   | 1                |                                |      |      |       | X                     | X   | X  | X   | X     |       | X     |                      |            |
| .07                                  | —          | —    | tripblank_55                             | W      | 1               |      | 1   |                  |                                |      |      |       | X                     |     |    |     |       |       |       |                      | tripblank  |
| .08                                  | 9/21/22    | 1100 | MW-40-99-GW-092722                       | GW     | 5               |      | 2   | 3                |                                |      |      |       | X                     | X   |    |     |       | X     |       |                      |            |
| .09                                  | 9/21/22    | 1220 | TW-MD-02-GW-092722                       | GW     | 8               | 4    | 3   | 1                |                                |      |      |       | X                     | X   | X  | X   | X     |       | X     |                      |            |
| .10                                  | 9/21/22    | —    | DUP-01-GW-092722                         | GW     | 5               |      | 2   | 3                |                                |      |      |       | X                     | X   |    |     |       | X     |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |                       |     |    |     |       |       |       |                      |            |

|                  |                                 |       |         |       |      |
|------------------|---------------------------------|-------|---------|-------|------|
| RELINQUISHED BY: | Signature: Sommer Guy / Arcadis | DATE: | 9/21/22 | TIME: | 1340 |
| RECEIVED BY:     | Signature: [Signature]          | DATE: | 9/21/22 | TIME: | 1340 |
| RELINQUISHED BY: | Signature: [Signature]          | DATE: | 9/21/22 | TIME: | 1540 |
| RECEIVED BY:     | Signature: [Signature]          | DATE: | 9/21/22 | TIME: | 1540 |

|                  |                                                          |          |        |                  |  |
|------------------|----------------------------------------------------------|----------|--------|------------------|--|
| RELINQUISHED BY: | Signature: [Signature]                                   | DATE:    |        | TIME:            |  |
| RECEIVED BY:     | Signature: [Signature]                                   | DATE:    |        | TIME:            |  |
| SEAL NO.         | SEAL INTACT                                              | INITIALS | NOTES: | TEMP. ON ARRIVAL |  |
|                  | YES <input type="checkbox"/> NO <input type="checkbox"/> |          |        |                  |  |
| SEAL NO.         | SEAL INTACT                                              | INITIALS |        |                  |  |
|                  | YES <input type="checkbox"/> NO <input type="checkbox"/> |          |        |                  |  |

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



# Quality Control Report

Report ID: QC-S40782-01  
Generated on 10/12/2022

## Report to

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

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

Phone: 810-225-1909 FAX:

## Report Summary

Lab Sample ID(s): S40782.01-S40782.10  
Project: 30112891.00006 / Racer PNC  
Submitted Date/Time: 09/27/2022 15:40  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-11)  
Prep Batch Summary (Pages 12-15)  
Surrogates per Lab Sample (Pages 16-23)  
Surrogates per QC Sample (Pages 24-27)  
Batch QC Results (Pages 28-48)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

# QC Report - Analysis Summary

**Lab Sample ID: S40782.01**

Sample Tag: MWW1-15\_GW-092622

Collected Date/Time: 09/26/2022 10:15

Matrix: Groundwater

COC Reference: 157355

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|------------------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                    |
| Alkalinity as CaCO3                      | SM2320B       | 10/03/22 16:46 | ALK221003-W1 | ALK221003-W1 | No   | BLK/LCS/MS/DUP     |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:26 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP     |
| Total Dissolved Solids                   | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP        |
| Total Suspended Solids                   | SM2540D       | 09/28/22 20:00 | TSS220928    | TSS220928    | No   | BLK/LCS/DUP        |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                    |
| Antimony                                 | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Arsenic                                  | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Barium                                   | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Beryllium                                | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Cadmium                                  | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Calcium                                  | E200.8        | 09/28/22 15:23 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Chromium                                 | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Cobalt                                   | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Copper                                   | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Iron                                     | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Lead                                     | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Magnesium                                | E200.8        | 09/28/22 15:23 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Manganese                                | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Mercury                                  | E245.1        | 10/03/22 11:28 | HG-22-1003A  | HGD-100322-1 | No   | BLK/LCS/MS/MSD     |
| Nickel                                   | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Selenium                                 | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Silver                                   | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Thallium                                 | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Vanadium                                 | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Zinc                                     | E200.8        | 09/28/22 12:38 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                    |
| PCB                                      | E608.3        | 09/30/22 12:18 | A220930      | PA220929W1   | Yes  | BLK/LCS/LCSD       |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                    |
| Volatile Organics - Arcadis              | SW5030C/8260C | 10/05/22 13:45 | 221005A9     | VF221005W2   | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

Lab Sample ID: S40782.02

Sample Tag: MW-01-17\_GW-092622

Collected Date/Time: 09/26/2022 11:45

Matrix: Groundwater

COC Reference: 157355

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| 1,4-Dioxane                 | SW8260B - SIM | 10/07/22 22:41 | 221007B9 | VS221007W1 | Yes  | BLK/LCS/LCSD       |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 12:43 | 221005A9 | VF221005W2 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40782.03**

Sample Tag: MW-01-17\_GW-092622 MS

Collected Date/Time: 09/26/2022 11:45

Matrix: Groundwater

COC Reference: 157355

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| 1,4-Dioxane                 | SW8260B - SIM | 10/07/22 20:34 | 221007B9 | VS221007W1 | Yes  | BLK/LCS/LCSD       |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 10:08 | 221005A9 | VF221005W2 | Yes  | BLK/LCS/LCSD/MS/MS |



## QC Report - Analysis Summary

**Lab Sample ID: S40782.04**

Sample Tag: MW-01-17\_GW-092622 MSD

Collected Date/Time: 09/26/2022 11:45

Matrix: Groundwater

COC Reference: 157355

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| 1,4-Dioxane                 | SW8260B - SIM | 10/07/22 20:54 | 221007B9 | VS221007W1 | Yes  | BLK/LCS/LCSD       |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 10:27 | 221005A9 | VF221005W2 | Yes  | BLK/LCS/LCSD/MS/MS |

# QC Report - Analysis Summary

**Lab Sample ID: S40782.05**

Sample Tag: MW-03-17\_GW-092622

Collected Date/Time: 09/26/2022 13:40

Matrix: Groundwater

COC Reference: 157355

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|------------------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                    |
| Alkalinity as CaCO3                      | SM2320B       | 10/03/22 16:48 | ALK221003-W1 | ALK221003-W1 | No   | BLK/LCS/MS/DUP     |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:28 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP     |
| Total Dissolved Solids                   | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP        |
| Total Suspended Solids                   | SM2540D       | 09/28/22 20:00 | TSS220928    | TSS220928    | No   | BLK/LCS/DUP        |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                    |
| Antimony                                 | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Arsenic                                  | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Barium                                   | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Beryllium                                | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Cadmium                                  | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Calcium                                  | E200.8        | 09/28/22 15:29 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Chromium                                 | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Cobalt                                   | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Copper                                   | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Iron                                     | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Lead                                     | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Magnesium                                | E200.8        | 09/28/22 15:29 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Manganese                                | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Mercury                                  | E245.1        | 10/03/22 11:31 | HG-22-1003A  | HGD-100322-1 | No   | BLK/LCS/MS/MSD     |
| Nickel                                   | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Selenium                                 | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Silver                                   | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Thallium                                 | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Vanadium                                 | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Zinc                                     | E200.8        | 09/28/22 12:50 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                    |
| PCB                                      | E608.3        | 09/30/22 12:30 | A220930      | PA220929W1   | Yes  | BLK/LCS/LCSD       |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                    |
| Volatile Organics - Arcadis              | SW5030C/8260C | 10/05/22 14:05 | 221005A9     | VF221005W2   | Yes  | BLK/LCS/LCSD/MS/MS |

# QC Report - Analysis Summary

**Lab Sample ID: S40782.06**

Sample Tag: MW-04-17\_GW-092622

Collected Date/Time: 09/26/2022 14:55

Matrix: Groundwater

COC Reference: 157355

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|------------------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                    |
| Alkalinity as CaCO3                      | SM2320B       | 10/03/22 16:50 | ALK221003-W1 | ALK221003-W1 | No   | BLK/LCS/MS/DUP     |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:30 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP     |
| Total Dissolved Solids                   | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP        |
| Total Suspended Solids                   | SM2540D       | 09/28/22 20:00 | TSS220928    | TSS220928    | No   | BLK/LCS/DUP        |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                    |
| Antimony                                 | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Arsenic                                  | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Barium                                   | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Beryllium                                | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Cadmium                                  | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Calcium                                  | E200.8        | 09/28/22 15:31 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Chromium                                 | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Cobalt                                   | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Copper                                   | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Iron                                     | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Lead                                     | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Magnesium                                | E200.8        | 09/28/22 15:31 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Manganese                                | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Mercury                                  | E245.1        | 10/03/22 11:35 | HG-22-1003A  | HGD-100322-1 | No   | BLK/LCS/MS/MSD     |
| Nickel                                   | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Selenium                                 | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Silver                                   | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Thallium                                 | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Vanadium                                 | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Zinc                                     | E200.8        | 09/28/22 12:54 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                    |
| PCB                                      | E608.3        | 09/30/22 12:41 | A220930      | PA220929W1   | Yes  | BLK/LCS/LCSD       |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                    |
| Volatile Organics - Arcadis              | SW5030C/8260C | 10/05/22 14:24 | 221005A9     | VF221005W2   | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

Lab Sample ID: S40782.07

Sample Tag: Tripblank\_55

Collected Date/Time: 09/26/2022 00:01

Matrix: Water

COC Reference: 157355

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 11:45 | 221005A9 | VF221005W2 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40782.08**

Sample Tag: MW-40-99\_GW-092722

Collected Date/Time: 09/27/2022 11:00

Matrix: Groundwater

COC Reference: 157355

| Analysis                          | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - PCBs/Pesticides</b> |               |                |          |            |      |                    |
| PCB                               | E608.3        | 10/03/22 20:06 | E221003  | PA220929W1 | Yes  | BLK/LCS/LCSD       |
| <b>Organics - Volatiles</b>       |               |                |          |            |      |                    |
| 1,4-Dioxane                       | SW8260B - SIM | 10/07/22 23:04 | 221007B9 | VS221007W1 | Yes  | BLK/LCS/LCSD       |
| Volatile Organics - Arcadis       | SW5030C/8260C | 10/05/22 14:44 | 221005A9 | VF221005W2 | Yes  | BLK/LCS/LCSD/MS/MS |

# QC Report - Analysis Summary

Lab Sample ID: S40782.09

Sample Tag: TW-MD-02\_GW-092722

Collected Date/Time: 09/27/2022 12:20

Matrix: Groundwater

COC Reference: 157355

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|-----------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b>Inorganics</b>                 |               |                |              |              |      |                    |
| Alkalinity as CaCO3               | SM2320B       | 10/03/22 16:52 | ALK221003-W1 | ALK221003-W1 | No   | BLK/LCS/MS/DUP     |
| Hardness as CaCO3                 | SM2340C       | 10/11/22 13:32 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP     |
| Total Dissolved Solids            | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP        |
| Total Suspended Solids            | SM2540D       | 09/28/22 20:00 | TSS220928    | TSS220928    | No   | BLK/LCS/DUP        |
| <b>Metals</b>                     |               |                |              |              |      |                    |
| Antimony                          | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Arsenic                           | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Barium                            | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Beryllium                         | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Cadmium                           | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Calcium                           | E200.8        | 09/28/22 15:32 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Chromium                          | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Cobalt                            | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Copper                            | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Iron                              | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Lead                              | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Magnesium                         | E200.8        | 09/28/22 15:32 | MT4-22-0928B | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Manganese                         | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Mercury                           | E245.1        | 10/03/22 11:38 | HG-22-1003A  | HGD-100322-1 | No   | BLK/LCS/MS/MSD     |
| Nickel                            | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Selenium                          | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Silver                            | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Thallium                          | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Vanadium                          | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| Zinc                              | E200.8        | 09/28/22 12:57 | MT4-22-0928A | MTD-092822-2 | No   | BLK/LCS/MS/MSD     |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                    |
| PCB                               | E608.3        | 10/03/22 20:18 | E221003      | PA220929W1   | Yes  | BLK/LCS/LCSD       |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                    |
| Volatile Organics - Arcadis       | SW5030C/8260C | 10/05/22 15:03 | 221005A9     | VF221005W2   | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40782.10**

Sample Tag: DUP-01\_GW-092722

Collected Date/Time: 09/27/2022 00:01

Matrix: Groundwater

COC Reference: 157355

| Analysis                          | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - PCBs/Pesticides</b> |               |                |          |            |      |              |
| PCB                               | E608.3        | 10/03/22 20:30 | E221003  | PA220929W1 | Yes  | BLK/LCS/LCSD |
| <b>Organics - Volatiles</b>       |               |                |          |            |      |              |
| 1,4-Dioxane                       | SW8260B - SIM | 10/07/22 23:25 | 221007B9 | VS221007W1 | Yes  | BLK/LCS/LCSD |
| Volatile Organics - Arcadis       | SW5030C/8260C | 10/10/22 13:52 | 221010A9 | VF221010W2 | Yes  | BLK/LCS/LCSD |

## QC Report - Prep Batch Summary

### Inorganics, Prep Batch ID: ALK221003-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

| Sample ID | Analysis            | Method  | Run Date/Time  | Batch ID     |
|-----------|---------------------|---------|----------------|--------------|
| S40782.01 | Alkalinity as CaCO3 | SM2320B | 10/03/22 16:46 | ALK221003-W1 |
| S40782.05 | Alkalinity as CaCO3 | SM2320B | 10/03/22 16:48 | ALK221003-W1 |
| S40782.06 | Alkalinity as CaCO3 | SM2320B | 10/03/22 16:50 | ALK221003-W1 |
| S40782.09 | Alkalinity as CaCO3 | SM2320B | 10/03/22 16:52 | ALK221003-W1 |

### Inorganics, Prep Batch ID: HRD221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

| Sample ID | Analysis          | Method  | Run Date/Time  | Batch ID     |
|-----------|-------------------|---------|----------------|--------------|
| S40782.01 | Hardness as CaCO3 | SM2340C | 10/11/22 13:26 | HRD221011-W1 |
| S40782.05 | Hardness as CaCO3 | SM2340C | 10/11/22 13:28 | HRD221011-W1 |
| S40782.06 | Hardness as CaCO3 | SM2340C | 10/11/22 13:30 | HRD221011-W1 |
| S40782.09 | Hardness as CaCO3 | SM2340C | 10/11/22 13:32 | HRD221011-W1 |

### Inorganics, Prep Batch ID: TDS220930

Surrogates: No, QC Types: BLK/LCS/DUP

| Sample ID | Analysis               | Method  | Run Date/Time  | Batch ID  |
|-----------|------------------------|---------|----------------|-----------|
| S40782.01 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |
| S40782.05 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |
| S40782.06 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |
| S40782.09 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |

### Inorganics, Prep Batch ID: TSS220928

Surrogates: No, QC Types: BLK/LCS/DUP

| Sample ID | Analysis               | Method  | Run Date/Time  | Batch ID  |
|-----------|------------------------|---------|----------------|-----------|
| S40782.01 | Total Suspended Solids | SM2540D | 09/28/22 20:00 | TSS220928 |
| S40782.05 | Total Suspended Solids | SM2540D | 09/28/22 20:00 | TSS220928 |
| S40782.06 | Total Suspended Solids | SM2540D | 09/28/22 20:00 | TSS220928 |
| S40782.09 | Total Suspended Solids | SM2540D | 09/28/22 20:00 | TSS220928 |

### Metals, Prep Batch ID: HGD-100322-1

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID    |
|-----------|----------|--------|----------------|-------------|
| S40782.01 | Mercury  | E245.1 | 10/03/22 11:28 | HG-22-1003A |
| S40782.05 | Mercury  | E245.1 | 10/03/22 11:31 | HG-22-1003A |
| S40782.06 | Mercury  | E245.1 | 10/03/22 11:35 | HG-22-1003A |
| S40782.09 | Mercury  | E245.1 | 10/03/22 11:38 | HG-22-1003A |

### Metals, Prep Batch ID: MTD-092822-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40782.01 | Antimony  | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Arsenic   | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Barium    | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Beryllium | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Cadmium   | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Calcium   | E200.8 | 09/28/22 15:23 | MT4-22-0928B |
| S40782.01 | Chromium  | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Cobalt    | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Copper    | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Iron      | E200.8 | 09/28/22 12:38 | MT4-22-0928A |



# QC Report - Prep Batch Summary

## Metals, Prep Batch ID: MTD-092822-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40782.01 | Lead      | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Magnesium | E200.8 | 09/28/22 15:23 | MT4-22-0928B |
| S40782.01 | Manganese | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Nickel    | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Selenium  | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Silver    | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Thallium  | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Vanadium  | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.01 | Zinc      | E200.8 | 09/28/22 12:38 | MT4-22-0928A |
| S40782.05 | Antimony  | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Arsenic   | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Barium    | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Beryllium | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Cadmium   | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Calcium   | E200.8 | 09/28/22 15:29 | MT4-22-0928B |
| S40782.05 | Chromium  | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Cobalt    | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Copper    | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Iron      | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Lead      | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Magnesium | E200.8 | 09/28/22 15:29 | MT4-22-0928B |
| S40782.05 | Manganese | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Nickel    | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Selenium  | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Silver    | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Thallium  | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Vanadium  | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.05 | Zinc      | E200.8 | 09/28/22 12:50 | MT4-22-0928A |
| S40782.06 | Antimony  | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Arsenic   | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Barium    | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Beryllium | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Cadmium   | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Calcium   | E200.8 | 09/28/22 15:31 | MT4-22-0928B |
| S40782.06 | Chromium  | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Cobalt    | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Copper    | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Iron      | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Lead      | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Magnesium | E200.8 | 09/28/22 15:31 | MT4-22-0928B |
| S40782.06 | Manganese | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Nickel    | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Selenium  | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Silver    | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Thallium  | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Vanadium  | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.06 | Zinc      | E200.8 | 09/28/22 12:54 | MT4-22-0928A |
| S40782.09 | Antimony  | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Arsenic   | E200.8 | 09/28/22 12:57 | MT4-22-0928A |

# QC Report - Prep Batch Summary

## Metals, Prep Batch ID: MTD-092822-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40782.09 | Barium    | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Beryllium | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Cadmium   | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Calcium   | E200.8 | 09/28/22 15:32 | MT4-22-0928B |
| S40782.09 | Chromium  | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Cobalt    | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Copper    | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Iron      | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Lead      | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Magnesium | E200.8 | 09/28/22 15:32 | MT4-22-0928B |
| S40782.09 | Manganese | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Nickel    | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Selenium  | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Silver    | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Thallium  | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Vanadium  | E200.8 | 09/28/22 12:57 | MT4-22-0928A |
| S40782.09 | Zinc      | E200.8 | 09/28/22 12:57 | MT4-22-0928A |

## Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S40782.01 | PCB      | E608.3 | 09/30/22 12:18 | A220930  |
| S40782.05 | PCB      | E608.3 | 09/30/22 12:30 | A220930  |
| S40782.06 | PCB      | E608.3 | 09/30/22 12:41 | A220930  |
| S40782.08 | PCB      | E608.3 | 10/03/22 20:06 | E221003  |
| S40782.09 | PCB      | E608.3 | 10/03/22 20:18 | E221003  |
| S40782.10 | PCB      | E608.3 | 10/03/22 20:30 | E221003  |

## Organics - Volatiles, Prep Batch ID: VF221005W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40782.01 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 13:45 | 221005A9 |
| S40782.02 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 12:43 | 221005A9 |
| S40782.03 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 10:08 | 221005A9 |
| S40782.04 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 10:27 | 221005A9 |
| S40782.05 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 14:05 | 221005A9 |
| S40782.06 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 14:24 | 221005A9 |
| S40782.07 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 11:45 | 221005A9 |
| S40782.08 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 14:44 | 221005A9 |
| S40782.09 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 15:03 | 221005A9 |

## Organics - Volatiles, Prep Batch ID: VF221010W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40782.10 | Volatile Organics - Arcadis | SW5030C/8260C | 10/10/22 13:52 | 221010A9 |

## QC Report - Prep Batch Summary

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis    | Method        | Run Date/Time  | Batch ID |
|-----------|-------------|---------------|----------------|----------|
| S40782.02 | 1,4-Dioxane | SW8260B - SIM | 10/07/22 22:41 | 221007B9 |
| S40782.03 | 1,4-Dioxane | SW8260B - SIM | 10/07/22 20:34 | 221007B9 |
| S40782.04 | 1,4-Dioxane | SW8260B - SIM | 10/07/22 20:54 | 221007B9 |
| S40782.08 | 1,4-Dioxane | SW8260B - SIM | 10/07/22 23:04 | 221007B9 |
| S40782.10 | 1,4-Dioxane | SW8260B - SIM | 10/07/22 23:25 | 221007B9 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40782.01

Sample Tag: MWW1-15\_GW-092622

Collected Date/Time: 09/26/2022 10:15

Matrix: Groundwater

COC Reference: 157355

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: A220930, Run Date: 09/30/2022 12:18, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 67.40 | 34.1 | 137.1 |
| DCBP      |       | 76.00 | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 13:45, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.3 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 102.2 | 72.0 | 125.0 |
| Toluene-D8            |       | 100.9 | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40782.02**

Sample Tag: MW-01-17\_GW-092622

Collected Date/Time: 09/26/2022 11:45

Matrix: Groundwater

COC Reference: 157355

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 12:43, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>103.1</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>104.0</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.4</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40782.05**

Sample Tag: MW-03-17\_GW-092622

Collected Date/Time: 09/26/2022 13:40

Matrix: Groundwater

COC Reference: 157355

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: A220930, Run Date: 09/30/2022 12:30, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec          | LCL  | UCL   |
|-----------|-------|---------------|------|-------|
| TCX       |       | <b>97.60</b>  | 34.1 | 137.1 |
| DCBP      |       | <b>109.70</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 14:05, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.0</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>99.5</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>105.7</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40782.06**

Sample Tag: MW-04-17\_GW-092622

Collected Date/Time: 09/26/2022 14:55

Matrix: Groundwater

COC Reference: 157355

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: A220930, Run Date: 09/30/2022 12:41, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>57.50</b> | 34.1 | 137.1 |
| DCBP      |       | <b>64.80</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 14:24, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>120.9</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>94.2</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>104.3</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40782.07

Sample Tag: Tripblank\_55

Collected Date/Time: 09/26/2022 00:01

Matrix: Water

COC Reference: 157355

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 11:45, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 101.6 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 98.9  | 72.0 | 125.0 |
| Toluene-D8            |       | 101.4 | 89.0 | 112.0 |



## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40782.08**

Sample Tag: MW-40-99\_GW-092722

Collected Date/Time: 09/27/2022 11:00

Matrix: Groundwater

COC Reference: 157355

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221003, Run Date: 10/03/2022 20:06, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec          | LCL  | UCL   |
|-----------|-------|---------------|------|-------|
| TCX       |       | <b>82.10</b>  | 34.1 | 137.1 |
| DCBP      |       | <b>109.20</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 14:44, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>101.9</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>104.3</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>106.3</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40782.09**

Sample Tag: TW-MD-02\_GW-092722

Collected Date/Time: 09/27/2022 12:20

Matrix: Groundwater

COC Reference: 157355

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221003, Run Date: 10/03/2022 20:18, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>78.70</b> | 34.1 | 137.1 |
| DCBP      |       | <b>97.50</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 15:03, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>101.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>101.8</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>105.0</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40782.10**

Sample Tag: DUP-01\_GW-092722

Collected Date/Time: 09/27/2022 00:01

Matrix: Groundwater

COC Reference: 157355

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221003, Run Date: 10/03/2022 20:30, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec          | LCL  | UCL   |
|-----------|-------|---------------|------|-------|
| TCX       |       | <b>92.00</b>  | 34.1 | 137.1 |
| DCBP      |       | <b>112.00</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221010A9, Run Date: 10/10/2022 13:52, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>99.4</b>  | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>106.2</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>106.5</b> | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22093003.sblk-w.01

Run in Batch: A220930, Run Date: 09/30/2022 10:50, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 90.30 | 34.1 | 137.1 |
| DCBP      |       | 91.40 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:15, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec   | LCL  | UCL   |
|-----------|-------|--------|------|-------|
| TCX       |       | 86.80  | 34.1 | 137.1 |
| DCBP      |       | 103.10 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22093005.slcs-w.01d, Parent Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:30, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 83.00 | 34.1 | 137.1 |
| DCBP      |       | 91.40 | 30.0 | 138.6 |

# QC Report - Surrogates per QC Sample

## Organics - Volatiles, Prep Batch ID: VF221005W2

QC Types: BLK/LCS/LCSD/MS/MSD

### Blank (BLK)

Lab Sample ID: 221005A9.BLKW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 11:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 101.8 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 100.9 | 72.0 | 125.0 |
| Toluene-D8            |       | 101.4 | 89.0 | 112.0 |

### Laboratory Control Sample (LCS)

Lab Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:29, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 102.4 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 98.2  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.4 | 89.0 | 112.0 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005A9.LCSDW05A, Parent Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:49, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 102.2 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 93.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.4 | 89.0 | 112.0 |

### Matrix Spike (MS)

Lab Sample ID: 221005A9.4078203M, Parent Sample ID: S40782.02

Run in Batch: 221005A9, Run Date: 10/05/2022 10:08, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.6 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 99.3  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.9 | 89.0 | 112.0 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005A9.4078204N, Parent Sample ID: 221005A9.4078203M

Run in Batch: 221005A9, Run Date: 10/05/2022 10:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.3 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 98.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.8 | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF221010W2

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221010A9.BLKW10A

Run in Batch: 221010A9, Run Date: 10/10/2022 13:32, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>102.6</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>96.8</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>111.6</b> | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221010A9.LCSW10A

Run in Batch: 221010A9, Run Date: 10/10/2022 12:14, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>95.0</b>  | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>106.3</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>99.6</b>  | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221010A9.LCSDW10A, Parent Sample ID: 221010A9.LCSW10A

Run in Batch: 221010A9, Run Date: 10/10/2022 12:33, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>104.0</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>104.8</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>95.4</b>  | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VS221007W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: ALK221003-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

#### Blank (BLK)

Lab Sample ID: ALK221003-W1.LRB1

Run in Batch: ALK221003-W1, Run Date: 10/03/2022 16:00, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | Conc | RDL | Units |
|---------------------|-------|------|-----|-------|
| Alkalinity as CaCO3 |       | ND   | 1   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: ALK221003-W1.LCS1

Run in Batch: ALK221003-W1, Run Date: 10/03/2022 16:06, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | % Rec | LCL | UCL |
|---------------------|-------|-------|-----|-----|
| Alkalinity as CaCO3 |       | 94    | 90  | 110 |

#### Matrix Spike (MS)

Lab Sample ID: ALK221003-W1.MS1, Parent Sample ID: S40766.02

Run in Batch: ALK221003-W1, Run Date: 10/03/2022 16:18, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | % Rec | LCL | UCL |
|---------------------|-------|-------|-----|-----|
| Alkalinity as CaCO3 |       | 100   | 80  | 120 |

#### Duplicate (DUP)

Lab Sample ID: ALK221003-W1.DP1, Parent Sample ID: S40709.01

Run in Batch: ALK221003-W1, Run Date: 10/03/2022 16:10, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 2

| Analyte             | Flags | RPD | RPD CL |
|---------------------|-------|-----|--------|
| Alkalinity as CaCO3 |       | <1  | 15     |



## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: HRD221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

#### Blank (BLK)

Lab Sample ID: HRD221011-W1.LRB1

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:00, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | Conc | RDL | Units |
|-------------------|-------|------|-----|-------|
| Hardness as CaCO3 |       | ND   | 2   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HRD221011-W1.LCS1

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:06, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | % Rec | LCL | UCL |
|-------------------|-------|-------|-----|-----|
| Hardness as CaCO3 |       | 101   | 90  | 110 |

#### Matrix Spike (MS)

Lab Sample ID: HRD221011-W1.MS1, Parent Sample ID: S40775.02

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:14, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | % Rec | LCL | UCL |
|-------------------|-------|-------|-----|-----|
| Hardness as CaCO3 |       | 102   | 80  | 120 |

#### Duplicate (DUP)

Lab Sample ID: HRD221011-W1.DP1, Parent Sample ID: S41042.07

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:10, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 10

| Analyte           | Flags | RPD | RPD CL |
|-------------------|-------|-----|--------|
| Hardness as CaCO3 |       | 1   | 20     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: TDS220930

Surrogates: No, QC Types: BLK/LCS/DUP

#### Blank (BLK)

Lab Sample ID: TDS220930.LRB1

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | Conc | RDL | Units |
|------------------------|-------|------|-----|-------|
| Total Dissolved Solids |       | ND   | 50  | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: TDS220930.LCS1

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 4

| Analyte                | Flags | % Rec | LCL | UCL |
|------------------------|-------|-------|-----|-----|
| Total Dissolved Solids |       | 100.6 | 90  | 110 |

#### Duplicate (DUP)

Lab Sample ID: TDS220930.DP1, Parent Sample ID: S40775.04

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | RPD | RPD CL |
|------------------------|-------|-----|--------|
| Total Dissolved Solids |       | 0.9 | 10     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: TSS220928

Surrogates: No, QC Types: BLK/LCS/DUP

#### Blank (BLK)

Lab Sample ID: TSS220928.LRB1

Run in Batch: TSS220928, Run Date: 09/28/2022 20:00, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 1

| Analyte                | Flags | Conc | RDL | Units |
|------------------------|-------|------|-----|-------|
| Total Suspended Solids |       | ND   | 3   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: TSS220928.LCS1

Run in Batch: TSS220928, Run Date: 09/28/2022 20:00, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 10

| Analyte                | Flags | % Rec | LCL  | UCL |
|------------------------|-------|-------|------|-----|
| Total Suspended Solids |       | 99.8  | 78.8 | 113 |

#### Duplicate (DUP)

Lab Sample ID: TSS220928.DP1, Parent Sample ID: S40775.03

Run in Batch: TSS220928, Run Date: 09/28/2022 20:00, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | RPD | RPD CL |
|------------------------|-------|-----|--------|
| Total Suspended Solids |       | 0.5 | 10     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: HGD-100322-1

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: HG-22-1003A.015.LRB

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 10:29, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL  | Units |
|---------|-------|------|------|-------|
| Mercury |       | ND   | 0.20 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HG-22-1003A.014.LCS

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 10:25, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 92    | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1003A.026.MS, Parent Sample ID: S40775.05

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 11:05, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 93    | 80  | 120 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1003A.040.MS, Parent Sample ID: S40803.03

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 11:51, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 94    | 80  | 120 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1003A.027.MSD, Parent Sample ID: HG-22-1003A.026.MS

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 11:08, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 98    | 80  | 120 | 5   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1003A.041.MSD, Parent Sample ID: HG-22-1003A.040.MS

Run in Batch: HG-22-1003A, Run Date: 10/03/2022 11:54, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 97    | 80  | 120 | 3   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-092822-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-0928A.022.LRB

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 11:43, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL    | Units |
|-----------|-------|------|--------|-------|
| Antimony  |       | ND   | 0.001  | mg/L  |
| Arsenic   |       | ND   | 0.0004 | mg/L  |
| Barium    |       | ND   | 0.001  | mg/L  |
| Beryllium |       | ND   | 0.0002 | mg/L  |
| Cadmium   |       | ND   | 0.0001 | mg/L  |
| Chromium  |       | ND   | 0.001  | mg/L  |
| Cobalt    |       | ND   | 0.001  | mg/L  |
| Copper    |       | ND   | 0.001  | mg/L  |
| Iron      |       | ND   | 0.004  | mg/L  |
| Lead      |       | ND   | 0.0006 | mg/L  |
| Manganese |       | ND   | 0.001  | mg/L  |
| Nickel    |       | ND   | 0.001  | mg/L  |
| Selenium  |       | ND   | 0.001  | mg/L  |
| Silver    |       | ND   | 0.0001 | mg/L  |
| Thallium  |       | ND   | 0.0004 | mg/L  |
| Vanadium  |       | ND   | 0.001  | mg/L  |
| Zinc      |       | ND   | 0.001  | mg/L  |

#### Blank (BLK)

Lab Sample ID: MT4-22-0928B.014.LRB

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:04, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL  | Units |
|-----------|-------|------|------|-------|
| Calcium   |       | ND   | 0.05 | mg/L  |
| Magnesium |       | ND   | 0.05 | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-0928A.020.LCS

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 11:38, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 100   | 85  | 115 |
| Arsenic   |       | 101   | 85  | 115 |
| Barium    |       | 100   | 85  | 115 |
| Beryllium |       | 99    | 85  | 115 |
| Cadmium   |       | 102   | 85  | 115 |
| Chromium  |       | 101   | 85  | 115 |
| Cobalt    |       | 99    | 85  | 115 |
| Copper    |       | 101   | 85  | 115 |
| Iron      |       | 108   | 85  | 115 |
| Lead      |       | 100   | 85  | 115 |
| Manganese |       | 102   | 85  | 115 |
| Nickel    |       | 103   | 85  | 115 |
| Selenium  |       | 95    | 85  | 115 |
| Silver    |       | 101   | 85  | 115 |
| Thallium  |       | 101   | 85  | 115 |
| Vanadium  |       | 103   | 85  | 115 |
| Zinc      |       | 103   | 85  | 115 |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-092822-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-0928B.013.LCS

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:03, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 98    | 85  | 115 |
| Magnesium |       | 101   | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-0928A.043.MS, Parent Sample ID: S40775.02

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 12:40, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 75  | 125 |
| Arsenic   |       | 111   | 75  | 125 |
| Barium    |       | 101   | 75  | 125 |
| Beryllium |       | 105   | 75  | 125 |
| Cadmium   |       | 107   | 75  | 125 |
| Chromium  |       | 109   | 75  | 125 |
| Cobalt    |       | 107   | 75  | 125 |
| Copper    |       | 105   | 75  | 125 |
| Iron      |       | 112   | 75  | 125 |
| Lead      |       | 97    | 75  | 125 |
| Manganese |       | 108   | 75  | 125 |
| Nickel    |       | 109   | 75  | 125 |
| Selenium  |       | 112   | 75  | 125 |
| Silver    |       | 96    | 75  | 125 |
| Thallium  |       | 98    | 75  | 125 |
| Vanadium  |       | 114   | 75  | 125 |
| Zinc      |       | 113   | 75  | 125 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-0928A.071.MS, Parent Sample ID: S40782.09

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 13:35, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 75  | 125 |
| Arsenic   |       | 112   | 75  | 125 |
| Barium    |       | 104   | 75  | 125 |
| Beryllium |       | 102   | 75  | 125 |
| Cadmium   |       | 107   | 75  | 125 |
| Chromium  |       | 110   | 75  | 125 |
| Cobalt    |       | 107   | 75  | 125 |
| Copper    |       | 105   | 75  | 125 |
| Iron      | *     | 72    | 75  | 125 |
| Lead      |       | 92    | 75  | 125 |
| Manganese |       | 105   | 75  | 125 |
| Nickel    |       | 104   | 75  | 125 |
| Selenium  |       | 111   | 75  | 125 |
| Silver    |       | 95    | 75  | 125 |
| Thallium  |       | 93    | 75  | 125 |
| Vanadium  |       | 114   | 75  | 125 |
| Zinc      |       | 108   | 75  | 125 |

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-092822-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike (MS)

Lab Sample ID: MT4-22-0928B.036.MS, Parent Sample ID: S40775.02

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:25, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   | *     | 71    | 75  | 125 |
| Magnesium |       | 101   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-0928B.050.MS, Parent Sample ID: S40782.09

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:40, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 108   | 75  | 125 |
| Magnesium |       | 116   | 75  | 125 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-0928A.044.MSD, Parent Sample ID: MT4-22-0928A.043.MS

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 12:42, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 100   | 75  | 125 | 3   | 20     |
| Arsenic   |       | 112   | 75  | 125 | 1   | 20     |
| Barium    |       | 104   | 75  | 125 | 2   | 20     |
| Beryllium |       | 102   | 75  | 125 | 3   | 20     |
| Cadmium   |       | 109   | 75  | 125 | 2   | 20     |
| Chromium  |       | 111   | 75  | 125 | 1   | 20     |
| Cobalt    |       | 108   | 75  | 125 | 1   | 20     |
| Copper    |       | 107   | 75  | 125 | 2   | 20     |
| Iron      |       | 112   | 75  | 125 | 0   | 20     |
| Lead      |       | 96    | 75  | 125 | 1   | 20     |
| Manganese |       | 112   | 75  | 125 | 1   | 20     |
| Nickel    |       | 106   | 75  | 125 | 3   | 20     |
| Selenium  |       | 121   | 75  | 125 | 8   | 20     |
| Silver    |       | 98    | 75  | 125 | 2   | 20     |
| Thallium  |       | 96    | 75  | 125 | 2   | 20     |
| Vanadium  |       | 112   | 75  | 125 | 2   | 20     |
| Zinc      |       | 115   | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-0928A.072.MSD, Parent Sample ID: MT4-22-0928A.071.MS

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 13:37, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 99    | 75  | 125 | 2   | 20     |
| Arsenic   |       | 108   | 75  | 125 | 4   | 20     |
| Barium    |       | 100   | 75  | 125 | 2   | 20     |
| Beryllium |       | 107   | 75  | 125 | 5   | 20     |
| Cadmium   |       | 108   | 75  | 125 | 0   | 20     |
| Chromium  |       | 109   | 75  | 125 | 1   | 20     |
| Cobalt    |       | 106   | 75  | 125 | 2   | 20     |
| Copper    |       | 104   | 75  | 125 | 1   | 20     |
| Iron      | *     | 68    | 75  | 125 | 0   | 20     |
| Lead      |       | 92    | 75  | 125 | 1   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-092822-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-22-0928A.072.MSD, Parent Sample ID: MT4-22-0928A.071.MS

Run in Batch: MT4-22-0928A, Run Date: 09/28/2022 13:37, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Manganese |       | 97    | 75  | 125 | 2   | 20     |
| Nickel    |       | 106   | 75  | 125 | 1   | 20     |
| Selenium  |       | 114   | 75  | 125 | 2   | 20     |
| Silver    |       | 97    | 75  | 125 | 2   | 20     |
| Thallium  |       | 94    | 75  | 125 | 1   | 20     |
| Vanadium  |       | 114   | 75  | 125 | 0   | 20     |
| Zinc      |       | 112   | 75  | 125 | 3   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-0928B.037.MSD, Parent Sample ID: MT4-22-0928B.036.MS

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:26, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Calcium   |       | 100   | 75  | 125 | 2   | 20     |
| Magnesium |       | 102   | 75  | 125 | 0   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-0928B.051.MSD, Parent Sample ID: MT4-22-0928B.050.MS

Run in Batch: MT4-22-0928B, Run Date: 09/28/2022 15:41, Prep Date: 09/28/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Calcium   |       | 100   | 75  | 125 | 1   | 20     |
| Magnesium |       | 112   | 75  | 125 | 1   | 20     |



## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22093003.sblk-w.01

Run in Batch: A220930, Run Date: 09/30/2022 10:50, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:15, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 88.84 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22093005.slcs-w.01d, Parent Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:30, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------|-------|-------|------|-------|-----|--------|
| PCB-1016/1260 |       | 86.44 | 50.0 | 125.0 | 2.7 | 20.0   |

**Organics - Volatiles, Prep Batch ID: VF221005W2**

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

**Blank (BLK)**

Lab Sample ID: 221005A9.BLKW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 11:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

**Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)**

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

**Blank (BLK) (continued)**

Lab Sample ID: 221005A9.BLKW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 11:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

**Laboratory Control Sample (LCS)**

Lab Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:29, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 91.2  | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 94.6  | 44.0 | 134.4 |
| Benzene                        |       | 100.3 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 98.2  | 80.4 | 128.2 |
| Bromoform                      |       | 95.2  | 69.4 | 128.0 |
| Bromomethane                   |       | 103.3 | 56.8 | 151.3 |
| Carbon disulfide               |       | 93.6  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 93.7  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 96.3  | 79.2 | 122.7 |
| Chloroethane                   |       | 103.1 | 53.4 | 149.4 |
| Chloroform                     |       | 97.9  | 78.4 | 124.0 |
| Chloromethane                  |       | 110.8 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 103.2 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 97.5  | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 94.2  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 101.7 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 94.9  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 96.4  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 99.0  | 76.6 | 122.1 |
| Dibromochloromethane           |       | 97.8  | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 99.1  | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 98.4  | 73.6 | 129.3 |
| Ethylbenzene                   |       | 97.1  | 79.5 | 129.1 |
| 2-Hexanone                     |       | 100.2 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 103.8 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 104.1 | 73.2 | 122.4 |
| Methylene chloride             |       | 102.4 | 73.3 | 121.1 |
| Styrene                        |       | 97.3  | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 94.1  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 100.6 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 102.1 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 94.5  | 74.5 | 124.5 |
| Toluene                        |       | 98.0  | 79.8 | 124.5 |
| Trichloroethene                |       | 98.0  | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 104.5 | 59.7 | 151.8 |
| Vinyl chloride                 |       | 113.1 | 43.5 | 149.1 |
| o-Xylene                       |       | 96.9  | 80.2 | 131.0 |
| p,m-Xylene                     |       | 96.3  | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:29, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 96.3  | 74.4 | 121.5 |
| Cyclohexane                           |       | 91.8  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 99.5  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 94.9  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 101.6 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 98.5  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 96.3  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 100.4 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 98.9  | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 102.3 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 100.7 | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005A9.LCSDW05A, Parent Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:49, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------------------------|-------|-------|------|-------|-----|--------|
| Acetone                        |       | 88.2  | 29.9 | 161.5 | 3.4 | 30.0   |
| 2-Butanone (MEK)               |       | 92.4  | 44.0 | 134.4 | 2.4 | 30.0   |
| Benzene                        |       | 100.9 | 79.9 | 124.9 | 0.6 | 30.0   |
| Bromodichloromethane           |       | 97.8  | 80.4 | 128.2 | 0.4 | 30.0   |
| Bromoform                      |       | 93.8  | 69.4 | 128.0 | 1.5 | 30.0   |
| Bromomethane                   |       | 103.4 | 56.8 | 151.3 | 0.1 | 30.0   |
| Carbon disulfide               |       | 95.2  | 63.8 | 137.4 | 1.8 | 30.0   |
| Carbon tetrachloride           |       | 94.9  | 72.6 | 133.0 | 1.3 | 30.0   |
| Chlorobenzene                  |       | 99.0  | 79.2 | 122.7 | 2.7 | 30.0   |
| Chloroethane                   |       | 102.3 | 53.4 | 149.4 | 0.8 | 30.0   |
| Chloroform                     |       | 98.3  | 78.4 | 124.0 | 0.4 | 30.0   |
| Chloromethane                  |       | 110.7 | 23.8 | 166.5 | 0.0 | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 103.8 | 21.2 | 189.4 | 0.6 | 30.0   |
| 1,2-Dichlorobenzene            |       | 100.4 | 10.0 | 166.2 | 2.9 | 30.0   |
| 1,2-Dichloroethane             |       | 92.8  | 76.0 | 126.3 | 1.5 | 30.0   |
| 1,2-Dichloropropane            |       | 101.2 | 78.6 | 126.4 | 0.5 | 30.0   |
| 1,3-Dichlorobenzene            |       | 98.6  | 77.0 | 131.3 | 3.8 | 30.0   |
| 1,4-Dichlorobenzene            |       | 97.6  | 20.7 | 137.7 | 1.3 | 30.0   |
| cis-1,2-Dichloroethene         |       | 99.5  | 76.6 | 122.1 | 0.5 | 30.0   |
| Dibromochloromethane           |       | 97.6  | 74.6 | 127.2 | 0.1 | 30.0   |
| Dichlorodifluoromethane        |       | 99.0  | 10.0 | 222.8 | 0.0 | 30.0   |
| trans-1,2-Dichloroethene       |       | 99.4  | 73.6 | 129.3 | 1.0 | 30.0   |
| Ethylbenzene                   |       | 100.0 | 79.5 | 129.1 | 3.0 | 30.0   |
| 2-Hexanone                     |       | 98.8  | 55.4 | 136.9 | 1.4 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 101.6 | 71.6 | 125.2 | 2.2 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 101.0 | 73.2 | 122.4 | 3.0 | 30.0   |
| Methylene chloride             |       | 102.1 | 73.3 | 121.1 | 0.3 | 30.0   |
| Styrene                        |       | 98.6  | 69.5 | 126.7 | 1.3 | 30.0   |
| 1,1,1-Trichloroethane          |       | 95.5  | 79.4 | 130.9 | 1.5 | 30.0   |
| 1,1,2-Trichloroethane          |       | 98.8  | 78.7 | 123.1 | 1.8 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 221005A9.LCSDW05A, Parent Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:49, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 101.9 | 27.4 | 143.4 | 0.2 | 30.0   |
| Tetrachloroethene                     |       | 96.4  | 74.5 | 124.5 | 2.0 | 30.0   |
| Toluene                               |       | 98.5  | 79.8 | 124.5 | 0.5 | 30.0   |
| Trichloroethene                       |       | 98.7  | 79.7 | 124.2 | 0.8 | 30.0   |
| Trichlorofluoromethane                |       | 106.2 | 59.7 | 151.8 | 1.6 | 30.0   |
| Vinyl chloride                        |       | 115.3 | 43.5 | 149.1 | 1.9 | 30.0   |
| o-Xylene                              |       | 99.4  | 80.2 | 131.0 | 2.6 | 30.0   |
| p,m-Xylene                            |       | 98.4  | 79.4 | 132.2 | 2.2 | 30.0   |
| Isopropylbenzene                      |       | 99.0  | 74.4 | 121.5 | 2.8 | 30.0   |
| Cyclohexane                           |       | 92.7  | 10.0 | 169.1 | 1.1 | 30.0   |
| 1,1-Dichloroethane                    |       | 100.5 | 71.5 | 126.2 | 1.0 | 30.0   |
| 1,1-Dichloroethene                    |       | 96.1  | 69.6 | 139.4 | 1.3 | 30.0   |
| Methyl Acetate                        |       | 100.8 | 64.7 | 125.4 | 0.7 | 30.0   |
| Methyl cyclohexane                    |       | 99.9  | 76.6 | 131.3 | 1.4 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 96.1  | 75.1 | 135.9 | 0.2 | 30.0   |
| 1,2-Dibromoethane                     |       | 100.4 | 70.3 | 133.7 | 0.0 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 98.7  | 79.8 | 126.3 | 0.3 | 30.0   |
| cis-1,3-Dichloropropene               |       | 101.6 | 79.8 | 129.9 | 0.7 | 30.0   |
| trans-1,3-Dichloropropene             |       | 101.2 | 74.0 | 131.3 | 0.5 | 30.0   |

## Matrix Spike (MS)

Lab Sample ID: 221005A9.4078203M, Parent Sample ID: S40782.02

Run in Batch: 221005A9, Run Date: 10/05/2022 10:08, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   |
|-----------------------------|-------|-------|------|-------|
| Acetone                     |       | 91.7  | 29.9 | 161.5 |
| 2-Butanone (MEK)            |       | 98.0  | 44.0 | 134.4 |
| Benzene                     |       | 106.9 | 79.9 | 124.9 |
| Bromodichloromethane        |       | 104.5 | 80.4 | 128.2 |
| Bromoform                   |       | 100.5 | 69.4 | 128.0 |
| Bromomethane                |       | 112.6 | 56.8 | 151.3 |
| Carbon disulfide            |       | 102.0 | 63.8 | 137.4 |
| Carbon tetrachloride        |       | 98.1  | 72.6 | 133.0 |
| Chlorobenzene               |       | 103.0 | 79.2 | 122.7 |
| Chloroethane                |       | 111.1 | 53.4 | 149.4 |
| Chloroform                  |       | 106.3 | 78.4 | 124.0 |
| Chloromethane               |       | 124.0 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane |       | 104.5 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene         |       | 100.5 | 10.0 | 166.2 |
| 1,2-Dichloroethane          |       | 98.7  | 76.0 | 126.3 |
| 1,2-Dichloropropane         |       | 108.3 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene         |       | 98.1  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene         |       | 99.4  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene      |       | 106.9 | 76.6 | 122.1 |
| Dibromochloromethane        |       | 103.1 | 74.6 | 127.2 |
| Dichlorodifluoromethane     |       | 105.2 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene    |       | 105.4 | 73.6 | 129.3 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Matrix Spike (MS) (continued)

Lab Sample ID: 221005A9.4078203M, Parent Sample ID: S40782.02

Run in Batch: 221005A9, Run Date: 10/05/2022 10:08, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Ethylbenzene                          |       | 102.5 | 79.5 | 129.1 |
| 2-Hexanone                            |       | 109.4 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)           |       | 109.5 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE)        |       | 110.9 | 73.2 | 122.4 |
| Methylene chloride                    |       | 110.3 | 73.3 | 121.1 |
| Styrene                               |       | 102.2 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane                 |       | 100.9 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane                 |       | 106.9 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene                |       | 102.7 | 27.4 | 143.4 |
| Tetrachloroethene                     |       | 99.8  | 74.5 | 124.5 |
| Toluene                               |       | 104.7 | 79.8 | 124.5 |
| Trichloroethene                       |       | 103.6 | 79.7 | 124.2 |
| Trichlorofluoromethane                |       | 111.3 | 59.7 | 151.8 |
| Vinyl chloride                        |       | 123.2 | 43.5 | 149.1 |
| o-Xylene                              |       | 103.1 | 80.2 | 131.0 |
| p,m-Xylene                            |       | 100.5 | 79.4 | 132.2 |
| Isopropylbenzene                      |       | 100.0 | 74.4 | 121.5 |
| Cyclohexane                           |       | 98.2  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 107.2 | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 100.9 | 69.6 | 139.4 |
| Methyl Acetate                        |       | 96.7  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 99.3  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 100.7 | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 105.9 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 102.3 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 108.9 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 107.9 | 74.0 | 131.3 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005A9.4078204N, Parent Sample ID: 221005A9.4078203M

Run in Batch: 221005A9, Run Date: 10/05/2022 10:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-----------------------------|-------|-------|------|-------|-----|--------|
| Acetone                     |       | 98.3  | 29.9 | 161.5 | 6.5 | 30.0   |
| 2-Butanone (MEK)            |       | 106.9 | 44.0 | 134.4 | 8.7 | 30.0   |
| Benzene                     |       | 104.0 | 79.9 | 124.9 | 2.7 | 30.0   |
| Bromodichloromethane        |       | 102.6 | 80.4 | 128.2 | 1.9 | 30.0   |
| Bromoform                   |       | 100.1 | 69.4 | 128.0 | 0.4 | 30.0   |
| Bromomethane                |       | 108.4 | 56.8 | 151.3 | 3.8 | 30.0   |
| Carbon disulfide            |       | 99.1  | 63.8 | 137.4 | 2.9 | 30.0   |
| Carbon tetrachloride        |       | 94.2  | 72.6 | 133.0 | 4.0 | 30.0   |
| Chlorobenzene               |       | 99.3  | 79.2 | 122.7 | 3.7 | 30.0   |
| Chloroethane                |       | 107.2 | 53.4 | 149.4 | 3.6 | 30.0   |
| Chloroform                  |       | 102.6 | 78.4 | 124.0 | 3.6 | 30.0   |
| Chloromethane               |       | 119.0 | 23.8 | 166.5 | 4.1 | 30.0   |
| 1,2-Dibromo-3-chloropropane |       | 108.9 | 21.2 | 189.4 | 4.1 | 30.0   |
| 1,2-Dichlorobenzene         |       | 99.5  | 10.0 | 166.2 | 1.0 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 221005A9.4078204N, Parent Sample ID: 221005A9.4078203M

Run in Batch: 221005A9, Run Date: 10/05/2022 10:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2-Dichloroethane                    |       | 97.3  | 76.0 | 126.3 | 1.5 | 30.0   |
| 1,2-Dichloropropane                   |       | 104.6 | 78.6 | 126.4 | 3.4 | 30.0   |
| 1,3-Dichlorobenzene                   |       | 98.6  | 77.0 | 131.3 | 0.5 | 30.0   |
| 1,4-Dichlorobenzene                   |       | 97.6  | 20.7 | 137.7 | 1.8 | 30.0   |
| cis-1,2-Dichloroethene                |       | 103.6 | 76.6 | 122.1 | 3.2 | 30.0   |
| Dibromochloromethane                  |       | 101.4 | 74.6 | 127.2 | 1.6 | 30.0   |
| Dichlorodifluoromethane               |       | 98.7  | 10.0 | 222.8 | 6.4 | 30.0   |
| trans-1,2-Dichloroethene              |       | 102.0 | 73.6 | 129.3 | 3.3 | 30.0   |
| Ethylbenzene                          |       | 99.7  | 79.5 | 129.1 | 2.8 | 30.0   |
| 2-Hexanone                            |       | 112.9 | 55.4 | 136.9 | 3.2 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)           |       | 116.2 | 71.6 | 125.2 | 6.0 | 30.0   |
| tert-Methyl butyl ether (MTBE)        |       | 109.9 | 73.2 | 122.4 | 0.9 | 30.0   |
| Methylene chloride                    |       | 108.0 | 73.3 | 121.1 | 2.1 | 30.0   |
| Styrene                               |       | 100.4 | 69.5 | 126.7 | 1.8 | 30.0   |
| 1,1,1-Trichloroethane                 |       | 97.4  | 79.4 | 130.9 | 3.6 | 30.0   |
| 1,1,2-Trichloroethane                 |       | 104.9 | 78.7 | 123.1 | 1.9 | 30.0   |
| 1,2,4-Trichlorobenzene                |       | 103.2 | 27.4 | 143.4 | 0.5 | 30.0   |
| Tetrachloroethene                     |       | 96.8  | 74.5 | 124.5 | 3.0 | 30.0   |
| Toluene                               |       | 100.9 | 79.8 | 124.5 | 3.6 | 30.0   |
| Trichloroethene                       |       | 100.9 | 79.7 | 124.2 | 2.6 | 30.0   |
| Trichlorofluoromethane                |       | 107.7 | 59.7 | 151.8 | 3.3 | 30.0   |
| Vinyl chloride                        |       | 117.3 | 43.5 | 149.1 | 4.9 | 30.0   |
| o-Xylene                              |       | 100.0 | 80.2 | 131.0 | 3.1 | 30.0   |
| p,m-Xylene                            |       | 98.1  | 79.4 | 132.2 | 2.4 | 30.0   |
| Isopropylbenzene                      |       | 97.1  | 74.4 | 121.5 | 3.0 | 30.0   |
| Cyclohexane                           |       | 94.0  | 10.0 | 169.1 | 4.3 | 30.0   |
| 1,1-Dichloroethane                    |       | 104.7 | 71.5 | 126.2 | 2.4 | 30.0   |
| 1,1-Dichloroethene                    |       | 97.4  | 69.6 | 139.4 | 3.5 | 30.0   |
| Methyl Acetate                        |       | 98.8  | 64.7 | 125.4 | 2.1 | 30.0   |
| Methyl cyclohexane                    |       | 97.0  | 76.6 | 131.3 | 2.3 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 96.8  | 75.1 | 135.9 | 3.9 | 30.0   |
| 1,2-Dibromoethane                     |       | 104.6 | 70.3 | 133.7 | 1.2 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 104.0 | 79.8 | 126.3 | 1.6 | 30.0   |
| cis-1,3-Dichloropropene               |       | 106.1 | 79.8 | 129.9 | 2.6 | 30.0   |
| trans-1,3-Dichloropropene             |       | 106.7 | 74.0 | 131.3 | 1.2 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221010W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 221010A9.BLKW10A

Run in Batch: 221010A9, Run Date: 10/10/2022 13:32, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221010W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Blank (BLK) (continued)

Lab Sample ID: 221010A9.BLKW10A

Run in Batch: 221010A9, Run Date: 10/10/2022 13:32, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 221010A9.LCSW10A

Run in Batch: 221010A9, Run Date: 10/10/2022 12:14, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 78.4  | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 89.7  | 44.0 | 134.4 |
| Benzene                        |       | 94.1  | 79.9 | 124.9 |
| Bromodichloromethane           |       | 99.0  | 80.4 | 128.2 |
| Bromoform                      |       | 104.4 | 69.4 | 128.0 |
| Bromomethane                   |       | 102.0 | 56.8 | 151.3 |
| Carbon disulfide               |       | 82.3  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 97.5  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 94.5  | 79.2 | 122.7 |
| Chloroethane                   |       | 108.6 | 53.4 | 149.4 |
| Chloroform                     |       | 93.6  | 78.4 | 124.0 |
| Chloromethane                  |       | 111.0 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 95.1  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 101.0 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 93.0  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 94.8  | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 101.2 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 101.3 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 92.1  | 76.6 | 122.1 |
| Dibromochloromethane           |       | 99.8  | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 94.8  | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 84.8  | 73.6 | 129.3 |
| Ethylbenzene                   |       | 91.4  | 79.5 | 129.1 |
| 2-Hexanone                     |       | 101.7 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 95.7  | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 93.3  | 73.2 | 122.4 |
| Methylene chloride             |       | 89.9  | 73.3 | 121.1 |
| Styrene                        |       | 94.5  | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 88.8  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 96.1  | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 93.8  | 27.4 | 143.4 |
| Tetrachloroethene              |       | 91.7  | 74.5 | 124.5 |
| Toluene                        |       | 108.0 | 79.8 | 124.5 |
| Trichloroethene                |       | 101.1 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 108.5 | 59.7 | 151.8 |
| Vinyl chloride                 |       | 112.8 | 43.5 | 149.1 |
| o-Xylene                       |       | 94.6  | 80.2 | 131.0 |
| p,m-Xylene                     |       | 99.1  | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221010W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221010A9.LCSW10A

Run in Batch: 221010A9, Run Date: 10/10/2022 12:14, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 90.7  | 74.4 | 121.5 |
| Cyclohexane                           |       | 96.4  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 86.8  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 82.0  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 93.0  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 97.6  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 83.5  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 104.3 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 91.9  | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 99.0  | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 110.6 | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221010A9.LCSDW10A, Parent Sample ID: 221010A9.LCSW10A

Run in Batch: 221010A9, Run Date: 10/10/2022 12:33, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|--------------------------------|-------|-------|------|-------|------|--------|
| Acetone                        |       | 94.6  | 29.9 | 161.5 | 18.7 | 30.0   |
| 2-Butanone (MEK)               |       | 89.6  | 44.0 | 134.4 | 0.2  | 30.0   |
| Benzene                        |       | 82.9  | 79.9 | 124.9 | 12.7 | 30.0   |
| Bromodichloromethane           |       | 86.2  | 80.4 | 128.2 | 13.8 | 30.0   |
| Bromoform                      |       | 103.0 | 69.4 | 128.0 | 1.3  | 30.0   |
| Bromomethane                   |       | 107.2 | 56.8 | 151.3 | 5.0  | 30.0   |
| Carbon disulfide               |       | 86.9  | 63.8 | 137.4 | 5.5  | 30.0   |
| Carbon tetrachloride           |       | 79.9  | 72.6 | 133.0 | 19.9 | 30.0   |
| Chlorobenzene                  |       | 106.8 | 79.2 | 122.7 | 12.2 | 30.0   |
| Chloroethane                   |       | 98.0  | 53.4 | 149.4 | 10.2 | 30.0   |
| Chloroform                     |       | 93.0  | 78.4 | 124.0 | 0.6  | 30.0   |
| Chloromethane                  |       | 111.5 | 23.8 | 166.5 | 0.4  | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 104.9 | 21.2 | 189.4 | 9.8  | 30.0   |
| 1,2-Dichlorobenzene            |       | 102.6 | 10.0 | 166.2 | 1.6  | 30.0   |
| 1,2-Dichloroethane             |       | 83.8  | 76.0 | 126.3 | 10.4 | 30.0   |
| 1,2-Dichloropropane            |       | 85.2  | 78.6 | 126.4 | 10.7 | 30.0   |
| 1,3-Dichlorobenzene            |       | 97.6  | 77.0 | 131.3 | 3.6  | 30.0   |
| 1,4-Dichlorobenzene            |       | 97.4  | 20.7 | 137.7 | 3.8  | 30.0   |
| cis-1,2-Dichloroethene         |       | 93.4  | 76.6 | 122.1 | 1.4  | 30.0   |
| Dibromochloromethane           |       | 104.6 | 74.6 | 127.2 | 4.7  | 30.0   |
| Dichlorodifluoromethane        |       | 93.4  | 10.0 | 222.8 | 1.5  | 30.0   |
| trans-1,2-Dichloroethene       |       | 87.3  | 73.6 | 129.3 | 2.9  | 30.0   |
| Ethylbenzene                   |       | 101.3 | 79.5 | 129.1 | 10.2 | 30.0   |
| 2-Hexanone                     |       | 89.7  | 55.4 | 136.9 | 12.6 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 86.2  | 71.6 | 125.2 | 10.4 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 97.6  | 73.2 | 122.4 | 4.5  | 30.0   |
| Methylene chloride             |       | 93.9  | 73.3 | 121.1 | 4.4  | 30.0   |
| Styrene                        |       | 98.1  | 69.5 | 126.7 | 3.8  | 30.0   |
| 1,1,1-Trichloroethane          |       | 89.2  | 79.4 | 130.9 | 0.5  | 30.0   |
| 1,1,2-Trichloroethane          |       | 97.0  | 78.7 | 123.1 | 0.9  | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221010W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 221010A9.LCSDW10A, Parent Sample ID: 221010A9.LCSW10A

Run in Batch: 221010A9, Run Date: 10/10/2022 12:33, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| 1,2,4-Trichlorobenzene                |       | 105.6 | 27.4 | 143.4 | 11.9 | 30.0   |
| Tetrachloroethene                     |       | 83.6  | 74.5 | 124.5 | 9.2  | 30.0   |
| Toluene                               |       | 83.9  | 79.8 | 124.5 | 25.2 | 30.0   |
| Trichloroethene                       |       | 85.6  | 79.7 | 124.2 | 16.6 | 30.0   |
| Trichlorofluoromethane                |       | 99.9  | 59.7 | 151.8 | 8.3  | 30.0   |
| Vinyl chloride                        |       | 108.3 | 43.5 | 149.1 | 4.1  | 30.0   |
| o-Xylene                              |       | 97.6  | 80.2 | 131.0 | 3.1  | 30.0   |
| p,m-Xylene                            |       | 95.7  | 79.4 | 132.2 | 3.4  | 30.0   |
| Isopropylbenzene                      |       | 96.3  | 74.4 | 121.5 | 5.9  | 30.0   |
| Cyclohexane                           |       | 95.3  | 10.0 | 169.1 | 1.1  | 30.0   |
| 1,1-Dichloroethane                    |       | 91.0  | 71.5 | 126.2 | 4.7  | 30.0   |
| 1,1-Dichloroethene                    |       | 102.8 | 69.6 | 139.4 | 22.5 | 30.0   |
| Methyl Acetate                        |       | 97.8  | 64.7 | 125.4 | 5.0  | 30.0   |
| Methyl cyclohexane                    |       | 89.3  | 76.6 | 131.3 | 8.8  | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 100.2 | 75.1 | 135.9 | 18.2 | 30.0   |
| 1,2-Dibromoethane                     |       | 102.7 | 70.3 | 133.7 | 1.5  | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 105.1 | 79.8 | 126.3 | 13.4 | 30.0   |
| cis-1,3-Dichloropropene               |       | 87.2  | 79.8 | 129.9 | 12.6 | 30.0   |
| trans-1,3-Dichloropropene             |       | 90.6  | 74.0 | 131.3 | 19.9 | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | Conc | RDL  | Units |
|-------------|-------|------|------|-------|
| 1,4-Dioxane | *     | 0.33 | 0.02 | ug/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   |
|-------------|-------|-------|------|-------|
| 1,4-Dioxane |       | 90.5  | 70.0 | 130.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-------------|-------|-------|------|-------|-----|--------|
| 1,4-Dioxane |       | 90.2  | 70.0 | 130.0 | 0.4 | 30.0   |

## REPORT TO

## CHAIN OF CUSTODY RECORD

# INVOICE

|                                                     |  |  |          |              |  |                |  |
|-----------------------------------------------------|--|--|----------|--------------|--|----------------|--|
| CONTACT NAME                                        |  |  |          | Alexis Crisp |  |                |  |
| COMPANY                                             |  |  |          | Arcadis      |  |                |  |
| ADDRESS                                             |  |  |          |              |  |                |  |
| 28550 Cabot Dr #500                                 |  |  |          |              |  |                |  |
| CITY                                                |  |  |          | STATE        |  | ZIP CODE       |  |
| Novi                                                |  |  |          | MI           |  | 48377          |  |
| PHONE NO.                                           |  |  | CELL NO. |              |  | P.O. NO.       |  |
|                                                     |  |  |          |              |  | 30112891.00006 |  |
| E-MAIL ADDRESS                                      |  |  |          |              |  | QUOTE NO.      |  |
| tiffany.linder@arcadis.com Alexis.Crisp@arcadis.com |  |  |          |              |  |                |  |

|                                                  |  |                                             |  |                               |          |
|--------------------------------------------------|--|---------------------------------------------|--|-------------------------------|----------|
| CONTACT NAME                                     |  | Accounts Payable                            |  | <input type="checkbox"/> SAME |          |
| COMPANY                                          |  | Arcadis                                     |  |                               |          |
| ADDRESS                                          |  |                                             |  |                               |          |
| 630 Plaza Drive #600                             |  |                                             |  |                               |          |
| CITY                                             |  | Highlands Ranch                             |  | STATE                         | ZIP CODE |
|                                                  |  |                                             |  | CO                            | 80129    |
| PHONE NO.                                        |  | E-MAIL ADDRESS                              |  |                               |          |
|                                                  |  | accounts payable.administration@arcadis.com |  |                               |          |
| ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED) |  |                                             |  |                               |          |

|                                                                                                                                                                                                                                                   |                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| PROJECT NO./NAME<br><b>30112891.00006 / Racer PNC</b>                                                                                                                                                                                             | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>Sommer Guy / Sommer Guy</b> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                       |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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 |  | Site Specific VOCs<br>Method 8260                                                  |  | PCB's (SW82A) |  | SS SG |  | ALK, DS SG |  | (to rail)<br>SW 6062A<br>8260C SIMS (1,4 dioxin) |  | MONTALM Geochem                                                                                                                 |  | Certifications<br><input type="checkbox"/> OHIO VAP <input type="checkbox"/> Drinking Water<br><input type="checkbox"/> DoD <input type="checkbox"/> NPDES |  |
| NONE                         |  | HCl<br>HNO <sub>3</sub><br>H <sub>2</sub> SO <sub>4</sub><br>NaOH<br>MeOH<br>OTHER |  | 100           |  | 100   |  | 100        |  | 100                                              |  | Project Locations<br><input type="checkbox"/> Detroit <input type="checkbox"/> New York<br><input type="checkbox"/> Other _____ |  |                                                                                                                                                            |  |
| Special Instructions         |  |                                                                                    |  |               |  |       |  |            |  |                                                  |  |                                                                                                                                 |  |                                                                                                                                                            |  |

| MERIT<br>LAB NO.<br>FOR LAB USE ONLY | COLLECTION |      | SAMPLE TAG<br>IDENTIFICATION-DESCRIPTION | MATRIX | # OF<br>BOTTLES | NONE | HCl | HNO <sub>3</sub> | H <sub>2</sub> SO <sub>4</sub> | NaOH | MeOH | OTHER |           |      |     |    |     |      |       |       |  |  | Special Instructions |            |
|--------------------------------------|------------|------|------------------------------------------|--------|-----------------|------|-----|------------------|--------------------------------|------|------|-------|-----------|------|-----|----|-----|------|-------|-------|--|--|----------------------|------------|
|                                      | DATE       | TIME |                                          |        |                 |      |     |                  |                                |      |      |       | Site Spec | meth | PCB | SS | ALK | SW6C | 8260C | MontC |  |  |                      |            |
| 4078201                              | 9/26/22    | 1015 | MWW1-15-GW-092622                        | GW     | 8               | 4    | 3   | 1                |                                |      |      |       | X         | X    | X   | X  | X   | X    |       |       |  |  |                      |            |
| 02,0304                              | 9/26/22    | 1145 | MW-01-17-GW-092622                       | GW     | 9               |      | 9   |                  |                                |      |      |       | X         |      |     |    |     | X    |       |       |  |  |                      | Run MS/MSD |
| 05                                   | 9/26/22    | 1340 | MW-03-17-GW-092622                       | GW     | 8               | 4    | 3   | 1                |                                |      |      |       | X         | X    | X   | X  | X   |      | X     |       |  |  |                      |            |
| -06                                  | 9/26/22    | 1455 | MW-04-17-GW-092622                       | GW     | 8               | 4    | 3   | 1                |                                |      |      |       | X         | X    | X   | X  | X   |      | X     |       |  |  |                      |            |
| 07                                   | —          | —    | tripblank_55                             | W      | 1               |      | 1   |                  |                                |      |      |       | X         |      |     |    |     |      |       |       |  |  |                      | tripblank  |
| 08                                   | 9/21/22    | 1100 | MW-40-99-GW-092722                       | GW     | 5               | 2    | 3   |                  |                                |      |      |       | X         | X    |     |    |     | X    |       |       |  |  |                      |            |
| 09                                   | 9/21/22    | 1220 | TW-MD-02-GW-092722                       | GW     | 8               | 4    | 3   | 1                |                                |      |      |       | X         | X    | X   | X  | X   |      | X     |       |  |  |                      |            |
| 10                                   | 9/21/22    | —    | DUP-01-GW-092722                         | GW     | 5               | 2    | 3   |                  |                                |      |      |       | X         | X    |     |    |     | X    |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  |                                |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |
|                                      |            |      |                                          |        |                 |      |     |                  | </                             |      |      |       |           |      |     |    |     |      |       |       |  |  |                      |            |

|                                            |                                                  |         |       |
|--------------------------------------------|--------------------------------------------------|---------|-------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>James Gray</i> / Arcadis <del>X</del> Sampler | DATE    | TIME  |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>Jim [Signature]</i>                           | 9/27/22 | 13:40 |
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>Jim [Signature]</i>                           | DATE    | TIME  |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>Jim [Signature]</i>                           | 9/27/22 | 13:40 |
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>Jim [Signature]</i>                           | DATE    | TIME  |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>Jim [Signature]</i>                           | 9/27/22 | 15:40 |
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>Jim [Signature]</i>                           | DATE    | TIME  |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>Jim [Signature]</i>                           | 9/27/22 | 15:40 |

|                                            |                                                                         |          |                                    |      |
|--------------------------------------------|-------------------------------------------------------------------------|----------|------------------------------------|------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE                               | TIME |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE                               | TIME |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: TEMP. ON ARRIVAL <u>4.0</u> |      |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |                                    |      |

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



# Analytical Laboratory Report

Report ID: S40840.01(01)  
Generated on 10/11/2022

## 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, Ian Drost

## 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): S40840.01-S40840.05  
Project: Racer PNC / 30112891.00006  
Collected Date(s): 09/27/2022 - 09/28/2022  
Submitted Date/Time: 09/28/2022 16:00  
Sampled by: Christina Weaver  
P.O. #: 30112891.00006

## Table of Contents

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

---

There is no additional narrative for this analytical report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                                                |
|---------------|------------------------------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                                          |
| E245.1        | EPA Method 245.1 Revision 3.0                                          |
| E608.3        | EPA Method 608.3 December 2016                                         |
| N/A           | Not Applicable                                                         |
| SM2320B       | Standard Method 2320 B 2011                                            |
| SM2340C       | Standard Method 2340 C 2011                                            |
| SM2540C       | Standard Method 2540 C 2015                                            |
| SM2540D       | Standard Method 2540 D 2015                                            |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007                           |
| SW5030C/8260C | SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003 |
| SW8260B - SIM | SW 846 Method 8260B Revision 2 December 1996 SIMs                      |



## Analytical Laboratory Report

### Sample Summary (5 samples)

| Sample ID | Sample Tag         | Matrix      | Collected Date/Time |
|-----------|--------------------|-------------|---------------------|
| S40840.01 | TW-MD-04_GW-092722 | Groundwater | 09/27/22 13:55      |
| S40840.02 | TW-10-02_GW-092722 | Groundwater | 09/27/22 15:14      |
| S40840.03 | Trip Blank         | Water       | 09/27/22 00:01      |
| S40840.04 | MWW5-01R_GW-092822 | Groundwater | 09/28/22 11:05      |
| S40840.05 | TW-09-01_GW-092822 | Groundwater | 09/28/22 12:38      |



# Analytical Laboratory Report

Lab Sample ID: S40840.01

Sample Tag: TW-MD-04\_GW-092722

Collected Date/Time: 09/27/2022 13:55

Matrix: Groundwater

COC Reference: 157359

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.8               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 3.8               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 3.8               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 3.8               | IR            |
| 2 | 1L Amber      | None            | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 13:33 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/11/22 11:20, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 318    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:34, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 212    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,300  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 10/03/22 19:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 26     | 3  |     | mg/L  | 2        |      |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:52, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Arsenic   | 0.006  | 0.002 |     | mg/L  | 5        | 7440-38-2 |       |

Method: E200.8, Run Date: 10/05/22 11:46, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Barium    | 0.130        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 11.7         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S40840.01 (continued)

Sample Tag: TW-MD-04\_GW-092722

Method: E200.8, Run Date: 10/05/22 11:46, Analyst: CCM (continued)

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Manganese | 0.356        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | 0.005        | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

Method: E200.8, Run Date: 10/05/22 15:52, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 84.4   | 1.0  |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 19.5   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 16:05, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/03/22 20:42, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 15:35, Analyst: KAG

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |



# Analytical Laboratory Report

Lab Sample ID: S40840.01 (continued)

Sample Tag: TW-MD-04\_GW-092722

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 15:35, Analyst: KAG (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| cis-1,2-Dichloroethene                | Not detected | 1  |     | ug/L  | 1        | 156-59-2   |       |
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40840.02  
Sample Tag: TW-10-02\_GW-092722  
Collected Date/Time: 09/27/2022 15:14  
Matrix: Groundwater  
COC Reference: 157359

Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.8               | IR            |

Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/07/22 23:46, Analyst: KAG

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 29     | 1  |     | ug/L  | 1        | 123-91-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S40840.03

Sample Tag: Trip Blank

Collected Date/Time: 09/27/2022 00:01

Matrix: Water

COC Reference: 157359

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 12:04, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40840.03 (continued)

Sample Tag: Trip Blank

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 12:04, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |





# Analytical Laboratory Report

Lab Sample ID: S40840.04

Sample Tag: MWW5-01R\_GW-092822

Collected Date/Time: 09/28/2022 11:05

Matrix: Groundwater

COC Reference: 157359

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.8               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 3.8               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 3.8               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 3.8               | IR            |
| 2 | 1L Amber      | None            | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 13:33 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/11/22 11:22, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 508    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:36, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 488    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,100  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 10/03/22 19:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 33     | 3  |     | mg/L  | 2        |      |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:53, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Arsenic   | 0.028  | 0.002 |     | mg/L  | 5        | 7440-38-2 |       |

Method: E200.8, Run Date: 10/05/22 11:51, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Barium    | 0.129        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 10.0         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S40840.04 (continued)

Sample Tag: MWW5-01R\_GW-092822

Method: E200.8, Run Date: 10/05/22 11:51, Analyst: CCM (continued)

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Manganese | 0.634        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | 0.006        | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | Not detected | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

Method: E200.8, Run Date: 10/05/22 15:54, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 187    | 1.0  |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 31.0   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 16:09, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/03/22 20:54, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 16:01, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | 43           | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |



# Analytical Laboratory Report

Lab Sample ID: S40840.04 (continued)

Sample Tag: MWW5-01R\_GW-092822

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 16:01, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| cis-1,2-Dichloroethene                | Not detected | 1  |     | ug/L  | 1        | 156-59-2   |       |
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40840.05

Sample Tag: TW-09-01\_GW-092822

Collected Date/Time: 09/28/2022 12:38

Matrix: Groundwater

COC Reference: 157359

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.8               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 3.8               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 3.8               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 3.8               | IR            |
| 2 | 1L Amber      | None            | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 13:33 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 10/04/22 15:00 | TAW     |       |

## Inorganics

Method: SM2320B, Run Date: 10/11/22 11:24, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 414    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:38, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 318    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 920    | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 10/03/22 19:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 31     | 3  |     | mg/L  | 2        |      |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:53, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Arsenic   | 0.034  | 0.002 |     | mg/L  | 5        | 7440-38-2 |       |

Method: E200.8, Run Date: 10/05/22 11:54, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Barium    | 0.387        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 10.1         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S40840.05 (continued)

Sample Tag: TW-09-01\_GW-092822

Method: E200.8, Run Date: 10/05/22 11:54, Analyst: CCM (continued)

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Manganese | 0.981        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | 0.008        | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | Not detected | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

Method: E200.8, Run Date: 10/05/22 15:55, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 122    | 1.0  |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 29.7   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 16:12, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/05/22 11:20, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 16:20, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |

Lab Sample ID: S40840.05 (continued)

Sample Tag: TW-09-01\_GW-092822

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 16:20, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| cis-1,2-Dichloroethene                | Not detected | 1  |     | ug/L  | 1        | 156-59-2   |       |
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40840

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: Racer PNC / 30112891.00006

Submitted:09/28/2022 16:00 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.8 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_

## Merit Laboratories Bottle Preservation Check

Lab Set ID: S40840      Submitted: 09/28/2022 16:00

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: Racer PNC / 30112891.00006

Initial Preservation Check: 09/28/2022 17:29 MMC

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S40840.01 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40840.04 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40840.05 | 125ml Plastic HNO3    | <2        |        |          |       |



## REPORT TO

|                                                     |          |                     |  |
|-----------------------------------------------------|----------|---------------------|--|
| CONTACT NAME                                        |          | ALEXIS CRISP        |  |
| COMPANY                                             |          | ARCADIS             |  |
| ADDRESS                                             |          | 28550 CABOT DR #500 |  |
| CITY                                                | STATE    | ZIP CODE            |  |
| NOVI                                                | MI       | 48377               |  |
| PHONE NO.                                           | CELL NO. | P.O. NO.            |  |
| —                                                   | —        | 30112891.06606      |  |
| E-MAIL ADDRESS                                      |          | QUOTE NO.           |  |
| ALEXIS.CRISP@ARCADIS.COM TIFFANY.LINDER@ARCADIS.COM |          |                     |  |

## CHAIN OF CUSTODY RECORD

|                                            |  |                                                                     |                          |
|--------------------------------------------|--|---------------------------------------------------------------------|--------------------------|
| CONTACT NAME<br><b>ACCOUNTS PAYABLE</b>    |  | <input type="checkbox"/> SAME                                       |                          |
| COMPANY<br><b>ARCADIS</b>                  |  |                                                                     |                          |
| ADDRESS<br><b>630 PLAZA DRIVE STE #600</b> |  |                                                                     |                          |
| CITY<br><b>HIGHLANDS RANCH</b>             |  | STATE<br><b>CO</b>                                                  | ZIP CODE<br><b>80129</b> |
| PHONE NO.<br><b>—</b>                      |  | E-MAIL ADDRESS<br><b>ACCOUNTSPAYABLE.ADMINISTRATION@ARCADIS.COM</b> |                          |

**INVOICE TO**

|                                                                                                                                                                                                                                             |                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| PROJECT NO./NAME<br><b>RACER PNC / 30112891.00006</b>                                                                                                                                                                                       | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>CHRISTILA WEAVER</b> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input checked="" type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER                              |                                                                |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER |                                                                |

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

## # Containers & Preservatives

[illegible]

|                        |                              |         |      |
|------------------------|------------------------------|---------|------|
| RELINQUISHED BY:       | <i>[Signature]</i> / ARCADIS | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                              | 9/28/22 | 1300 |
| RECEIVED BY:           | <i>[Signature]</i>           | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                              | 9/28/22 | 1300 |
| RELINQUISHED BY:       | <i>[Signature]</i>           | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                              | 9/28/22 | 1600 |
| RECEIVED BY:           | <i>[Signature]</i>           | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                              | 9/28/22 | 1600 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.8</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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



# Quality Control Report

Report ID: QC-S40840-01  
Generated on 10/12/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S40840.01-S40840.05  
Project: Racer PNC / 30112891.00006  
Submitted Date/Time: 09/28/2022 16:00  
Sampled by: Christina Weaver  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-6)  
Prep Batch Summary (Pages 7-9)  
Surrogates per Lab Sample (Pages 10-13)  
Surrogates per QC Sample (Pages 14-18)  
Batch QC Results (Pages 19-41)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

# QC Report - Analysis Summary

Lab Sample ID: S40840.01

Sample Tag: TW-MD-04\_GW-092722

Collected Date/Time: 09/27/2022 13:55

Matrix: Groundwater

COC Reference: 157359

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|-----------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b>Inorganics</b>                 |               |                |              |              |      |                |
| Alkalinity as CaCO3               | SM2320B       | 10/11/22 11:20 | ALK221011-W1 | ALK221011-W1 | No   | BLK/LCS/MS/DUP |
| Hardness as CaCO3                 | SM2340C       | 10/11/22 13:34 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP |
| Total Dissolved Solids            | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP    |
| Total Suspended Solids            | SM2540D       | 10/03/22 19:00 | TSS221003    | TSS221003    | No   | BLK/LCS/DUP    |
| <b>Metals</b>                     |               |                |              |              |      |                |
| Antimony                          | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                           | E200.8        | 10/05/22 14:52 | MT4-22-1005B | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Barium                            | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                         | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                           | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Calcium                           | E200.8        | 10/05/22 15:52 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Chromium                          | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                            | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Copper                            | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Iron                              | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Lead                              | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Magnesium                         | E200.8        | 10/05/22 15:52 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Manganese                         | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Mercury                           | E245.1        | 10/03/22 16:05 | HG-22-1003B  | HGD-100322-4 | No   | BLK/LCS/MS/MSD |
| Nickel                            | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Selenium                          | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Silver                            | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Thallium                          | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                          | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Zinc                              | E200.8        | 10/05/22 11:46 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                |
| PCB                               | E608.3        | 10/03/22 20:42 | E221003      | PA220929W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                |
| Volatile Organics - Arcadis       | SW5030C/8260C | 10/06/22 15:35 | 221006A7     | VF221006W1   | Yes  | BLK/LCS/LCSD   |

## QC Report - Analysis Summary

**Lab Sample ID: S40840.02**

Sample Tag: TW-10-02\_GW-092722

Collected Date/Time: 09/27/2022 15:14

Matrix: Groundwater

COC Reference: 157359

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| 1,4-Dioxane                 | SW8260B - SIM | 10/07/22 23:46 | 221007B9 | VS221007W1 | Yes  | BLK/LCS/LCSD |

## QC Report - Analysis Summary

**Lab Sample ID: S40840.03**

Sample Tag: Trip Blank

Collected Date/Time: 09/27/2022 00:01

Matrix: Water

COC Reference: 157359

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 12:04 | 221005A9 | VF221005W2 | Yes  | BLK/LCS/LCSD/MS/MS |

# QC Report - Analysis Summary

**Lab Sample ID: S40840.04**

Sample Tag: MWW5-01R\_GW-092822

Collected Date/Time: 09/28/2022 11:05

Matrix: Groundwater

COC Reference: 157359

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|------------------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                    |
| Alkalinity as CaCO3                      | SM2320B       | 10/11/22 11:22 | ALK221011-W1 | ALK221011-W1 | No   | BLK/LCS/MS/DUP     |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:36 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP     |
| Total Dissolved Solids                   | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP        |
| Total Suspended Solids                   | SM2540D       | 10/03/22 19:00 | TSS221003    | TSS221003    | No   | BLK/LCS/DUP        |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                    |
| Antimony                                 | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Arsenic                                  | E200.8        | 10/05/22 14:53 | MT4-22-1005B | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Barium                                   | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Beryllium                                | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Cadmium                                  | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Calcium                                  | E200.8        | 10/05/22 15:54 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Chromium                                 | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Cobalt                                   | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Copper                                   | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Iron                                     | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Lead                                     | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Magnesium                                | E200.8        | 10/05/22 15:54 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Manganese                                | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Mercury                                  | E245.1        | 10/03/22 16:09 | HG-22-1003B  | HGD-100322-4 | No   | BLK/LCS/MS/MSD     |
| Nickel                                   | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Selenium                                 | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Silver                                   | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Thallium                                 | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Vanadium                                 | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Zinc                                     | E200.8        | 10/05/22 11:51 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                    |
| PCB                                      | E608.3        | 10/03/22 20:54 | E221003      | PA220929W1   | Yes  | BLK/LCS/LCSD       |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                    |
| Volatile Organics - Arcadis              | SW5030C/8260C | 10/05/22 16:01 | 221005A9     | VF221005W2   | Yes  | BLK/LCS/LCSD/MS/MS |

# QC Report - Analysis Summary

Lab Sample ID: S40840.05

Sample Tag: TW-09-01\_GW-092822

Collected Date/Time: 09/28/2022 12:38

Matrix: Groundwater

COC Reference: 157359

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|-----------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b>Inorganics</b>                 |               |                |              |              |      |                    |
| Alkalinity as CaCO3               | SM2320B       | 10/11/22 11:24 | ALK221011-W1 | ALK221011-W1 | No   | BLK/LCS/MS/DUP     |
| Hardness as CaCO3                 | SM2340C       | 10/11/22 13:38 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP     |
| Total Dissolved Solids            | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP        |
| Total Suspended Solids            | SM2540D       | 10/03/22 19:00 | TSS221003    | TSS221003    | No   | BLK/LCS/DUP        |
| <b>Metals</b>                     |               |                |              |              |      |                    |
| Antimony                          | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Arsenic                           | E200.8        | 10/05/22 14:53 | MT4-22-1005B | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Barium                            | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Beryllium                         | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Cadmium                           | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Calcium                           | E200.8        | 10/05/22 15:55 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Chromium                          | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Cobalt                            | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Copper                            | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Iron                              | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Lead                              | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Magnesium                         | E200.8        | 10/05/22 15:55 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Manganese                         | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Mercury                           | E245.1        | 10/03/22 16:12 | HG-22-1003B  | HGD-100322-4 | No   | BLK/LCS/MS/MSD     |
| Nickel                            | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Selenium                          | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Silver                            | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Thallium                          | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Vanadium                          | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Zinc                              | E200.8        | 10/05/22 11:54 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                    |
| PCB                               | E608.3        | 10/05/22 11:20 | E221005      | PA221004W1   | Yes  | BLK/LCS/LCSD       |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                    |
| Volatile Organics - Arcadis       | SW5030C/8260C | 10/05/22 16:20 | 221005A9     | VF221005W2   | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Prep Batch Summary

### Inorganics, Prep Batch ID: ALK221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

| Sample ID | Analysis            | Method  | Run Date/Time  | Batch ID     |
|-----------|---------------------|---------|----------------|--------------|
| S40840.01 | Alkalinity as CaCO3 | SM2320B | 10/11/22 11:20 | ALK221011-W1 |
| S40840.04 | Alkalinity as CaCO3 | SM2320B | 10/11/22 11:22 | ALK221011-W1 |
| S40840.05 | Alkalinity as CaCO3 | SM2320B | 10/11/22 11:24 | ALK221011-W1 |

### Inorganics, Prep Batch ID: HRD221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

| Sample ID | Analysis          | Method  | Run Date/Time  | Batch ID     |
|-----------|-------------------|---------|----------------|--------------|
| S40840.01 | Hardness as CaCO3 | SM2340C | 10/11/22 13:34 | HRD221011-W1 |
| S40840.04 | Hardness as CaCO3 | SM2340C | 10/11/22 13:36 | HRD221011-W1 |
| S40840.05 | Hardness as CaCO3 | SM2340C | 10/11/22 13:38 | HRD221011-W1 |

### Inorganics, Prep Batch ID: TDS220930

Surrogates: No, QC Types: BLK/LCS/DUP

| Sample ID | Analysis               | Method  | Run Date/Time  | Batch ID  |
|-----------|------------------------|---------|----------------|-----------|
| S40840.01 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |
| S40840.04 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |
| S40840.05 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |

### Inorganics, Prep Batch ID: TSS221003

Surrogates: No, QC Types: BLK/LCS/DUP

| Sample ID | Analysis               | Method  | Run Date/Time  | Batch ID  |
|-----------|------------------------|---------|----------------|-----------|
| S40840.01 | Total Suspended Solids | SM2540D | 10/03/22 19:00 | TSS221003 |
| S40840.04 | Total Suspended Solids | SM2540D | 10/03/22 19:00 | TSS221003 |
| S40840.05 | Total Suspended Solids | SM2540D | 10/03/22 19:00 | TSS221003 |

### Metals, Prep Batch ID: HGD-100322-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID    |
|-----------|----------|--------|----------------|-------------|
| S40840.01 | Mercury  | E245.1 | 10/03/22 16:05 | HG-22-1003B |
| S40840.04 | Mercury  | E245.1 | 10/03/22 16:09 | HG-22-1003B |
| S40840.05 | Mercury  | E245.1 | 10/03/22 16:12 | HG-22-1003B |

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40840.01 | Antimony  | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Arsenic   | E200.8 | 10/05/22 14:52 | MT4-22-1005B |
| S40840.01 | Barium    | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Beryllium | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Cadmium   | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Calcium   | E200.8 | 10/05/22 15:52 | MT4-22-1005C |
| S40840.01 | Chromium  | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Cobalt    | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Copper    | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Iron      | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Lead      | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Magnesium | E200.8 | 10/05/22 15:52 | MT4-22-1005C |
| S40840.01 | Manganese | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Nickel    | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Selenium  | E200.8 | 10/05/22 11:46 | MT4-22-1005A |



# QC Report - Prep Batch Summary

## Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40840.01 | Silver    | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Thallium  | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Vanadium  | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.01 | Zinc      | E200.8 | 10/05/22 11:46 | MT4-22-1005A |
| S40840.04 | Antimony  | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Arsenic   | E200.8 | 10/05/22 14:53 | MT4-22-1005B |
| S40840.04 | Barium    | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Beryllium | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Cadmium   | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Calcium   | E200.8 | 10/05/22 15:54 | MT4-22-1005C |
| S40840.04 | Chromium  | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Cobalt    | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Copper    | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Iron      | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Lead      | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Magnesium | E200.8 | 10/05/22 15:54 | MT4-22-1005C |
| S40840.04 | Manganese | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Nickel    | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Selenium  | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Silver    | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Thallium  | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Vanadium  | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.04 | Zinc      | E200.8 | 10/05/22 11:51 | MT4-22-1005A |
| S40840.05 | Antimony  | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Arsenic   | E200.8 | 10/05/22 14:53 | MT4-22-1005B |
| S40840.05 | Barium    | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Beryllium | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Cadmium   | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Calcium   | E200.8 | 10/05/22 15:55 | MT4-22-1005C |
| S40840.05 | Chromium  | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Cobalt    | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Copper    | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Iron      | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Lead      | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Magnesium | E200.8 | 10/05/22 15:55 | MT4-22-1005C |
| S40840.05 | Manganese | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Nickel    | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Selenium  | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Silver    | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Thallium  | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Vanadium  | E200.8 | 10/05/22 11:54 | MT4-22-1005A |
| S40840.05 | Zinc      | E200.8 | 10/05/22 11:54 | MT4-22-1005A |

## Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S40840.01 | PCB      | E608.3 | 10/03/22 20:42 | E221003  |
| S40840.04 | PCB      | E608.3 | 10/03/22 20:54 | E221003  |

## QC Report - Prep Batch Summary

### Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S40840.05 | PCB      | E608.3 | 10/05/22 11:20 | E221005  |

### Organics - Volatiles, Prep Batch ID: VF221005W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40840.03 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 12:04 | 221005A9 |
| S40840.04 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 16:01 | 221005A9 |
| S40840.05 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 16:20 | 221005A9 |

### Organics - Volatiles, Prep Batch ID: VF221006W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40840.01 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 15:35 | 221006A7 |

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis    | Method        | Run Date/Time  | Batch ID |
|-----------|-------------|---------------|----------------|----------|
| S40840.02 | 1,4-Dioxane | SW8260B - SIM | 10/07/22 23:46 | 221007B9 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40840.01**

Sample Tag: TW-MD-04\_GW-092722

Collected Date/Time: 09/27/2022 13:55

Matrix: Groundwater

COC Reference: 157359

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221003, Run Date: 10/03/2022 20:42, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec          | LCL  | UCL   |
|-----------|-------|---------------|------|-------|
| TCX       |       | <b>108.10</b> | 34.1 | 137.1 |
| DCBP      |       | <b>112.70</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221006A7, Run Date: 10/06/2022 15:35, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>109.0</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>83.9</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.6</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40840.03

Sample Tag: Trip Blank

Collected Date/Time: 09/27/2022 00:01

Matrix: Water

COC Reference: 157359

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 12:04, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 100.4 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 102.6 | 72.0 | 125.0 |
| Toluene-D8            |       | 102.3 | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40840.04**

Sample Tag: MWW5-01R\_GW-092822

Collected Date/Time: 09/28/2022 11:05

Matrix: Groundwater

COC Reference: 157359

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221003, Run Date: 10/03/2022 20:54, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>67.70</b> | 34.1 | 137.1 |
| DCBP      |       | <b>85.50</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 16:01, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>123.6</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>97.5</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>99.8</b>  | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40840.05**

Sample Tag: TW-09-01\_GW-092822

Collected Date/Time: 09/28/2022 12:38

Matrix: Groundwater

COC Reference: 157359

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221005, Run Date: 10/05/2022 11:20, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>66.80</b> | 34.1 | 137.1 |
| DCBP      |       | <b>84.30</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 16:20, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.7</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>95.6</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.5</b> | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22093003.sblk-w.01

Run in Batch: A220930, Run Date: 09/30/2022 10:50, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 90.30 | 34.1 | 137.1 |
| DCBP      |       | 91.40 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:15, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec   | LCL  | UCL   |
|-----------|-------|--------|------|-------|
| TCX       |       | 86.80  | 34.1 | 137.1 |
| DCBP      |       | 103.10 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22093005.slcs-w.01d, Parent Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:30, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 83.00 | 34.1 | 137.1 |
| DCBP      |       | 91.40 | 30.0 | 138.6 |

# QC Report - Surrogates per QC Sample

## Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22100503.sblk-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 81.20 | 34.1 | 137.1 |
| DCBP      |       | 75.50 | 30.0 | 138.6 |

### Blank (BLK)

Lab Sample ID: b22100504.sblk-w.01

Run in Batch: B221005, Run Date: 10/05/2022 10:12, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec   | LCL  | UCL   |
|-----------|-------|--------|------|-------|
| TCX       |       | 104.40 | 34.1 | 137.1 |
| DCBP      |       | 96.60  | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:53, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 62.20 | 34.1 | 137.1 |
| DCBP      |       | 66.60 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: b22100511.slcs-w.01

Run in Batch: B221005, Run Date: 10/05/2022 13:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 70.70 | 34.1 | 137.1 |
| DCBP      |       | 78.50 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100505.slcs-w.01d, Parent Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 11:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 64.00 | 34.1 | 137.1 |
| DCBP      |       | 66.80 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: b22100512.slcs-w.01d, Parent Sample ID: b22100511.slcs-w.01

Run in Batch: B221005, Run Date: 10/05/2022 13:28, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 83.20 | 34.1 | 137.1 |
| DCBP      |       | 90.90 | 30.0 | 138.6 |



# QC Report - Surrogates per QC Sample

## Organics - Volatiles, Prep Batch ID: VF221005W2

QC Types: BLK/LCS/LCSD/MS/MSD

### Blank (BLK)

Lab Sample ID: 221005A9.BLKW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 11:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 101.8 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 100.9 | 72.0 | 125.0 |
| Toluene-D8            |       | 101.4 | 89.0 | 112.0 |

### Laboratory Control Sample (LCS)

Lab Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:29, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 102.4 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 98.2  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.4 | 89.0 | 112.0 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005A9.LCSDW05A, Parent Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:49, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 102.2 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 93.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.4 | 89.0 | 112.0 |

### Matrix Spike (MS)

Lab Sample ID: 221005A9.4078203M, Parent Sample ID: S40782.02

Run in Batch: 221005A9, Run Date: 10/05/2022 10:08, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.6 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 99.3  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.9 | 89.0 | 112.0 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005A9.4078204N, Parent Sample ID: 221005A9.4078203M

Run in Batch: 221005A9, Run Date: 10/05/2022 10:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.3 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 98.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.8 | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF221006W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221006A7.BLKW06A

Run in Batch: 221006A7, Run Date: 10/06/2022 13:30, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>111.4</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>87.0</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>99.4</b>  | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221006A7.LCSW06A

Run in Batch: 221006A7, Run Date: 10/06/2022 11:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>111.3</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>90.2</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>98.6</b>  | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221006A7.LCSDW06A, Parent Sample ID: 221006A7.LCSW06A

Run in Batch: 221006A7, Run Date: 10/06/2022 12:20, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>112.2</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>89.3</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>99.3</b>  | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VS221007W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: ALK221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

#### Blank (BLK)

Lab Sample ID: ALK221011-W1.LRB1

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:00, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | Conc | RDL | Units |
|---------------------|-------|------|-----|-------|
| Alkalinity as CaCO3 |       | ND   | 1   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: ALK221011-W1.LCS1

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:06, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | % Rec | LCL | UCL |
|---------------------|-------|-------|-----|-----|
| Alkalinity as CaCO3 |       | 98    | 90  | 110 |

#### Matrix Spike (MS)

Lab Sample ID: ALK221011-W1.MS1, Parent Sample ID: S40793.02

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:14, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | % Rec | LCL | UCL |
|---------------------|-------|-------|-----|-----|
| Alkalinity as CaCO3 |       | 100   | 80  | 120 |

#### Duplicate (DUP)

Lab Sample ID: ALK221011-W1.DP1, Parent Sample ID: S40793.01

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:10, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 2

| Analyte             | Flags | RPD | RPD CL |
|---------------------|-------|-----|--------|
| Alkalinity as CaCO3 |       | 4   | 15     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: HRD221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

#### Blank (BLK)

Lab Sample ID: HRD221011-W1.LRB1

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:00, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | Conc | RDL | Units |
|-------------------|-------|------|-----|-------|
| Hardness as CaCO3 |       | ND   | 2   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HRD221011-W1.LCS1

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:06, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | % Rec | LCL | UCL |
|-------------------|-------|-------|-----|-----|
| Hardness as CaCO3 |       | 101   | 90  | 110 |

#### Matrix Spike (MS)

Lab Sample ID: HRD221011-W1.MS1, Parent Sample ID: S40775.02

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:14, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | % Rec | LCL | UCL |
|-------------------|-------|-------|-----|-----|
| Hardness as CaCO3 |       | 102   | 80  | 120 |

#### Duplicate (DUP)

Lab Sample ID: HRD221011-W1.DP1, Parent Sample ID: S41042.07

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:10, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 10

| Analyte           | Flags | RPD | RPD CL |
|-------------------|-------|-----|--------|
| Hardness as CaCO3 |       | 1   | 20     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: TDS220930

Surrogates: No, QC Types: BLK/LCS/DUP

#### Blank (BLK)

Lab Sample ID: TDS220930.LRB1

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | Conc | RDL | Units |
|------------------------|-------|------|-----|-------|
| Total Dissolved Solids |       | ND   | 50  | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: TDS220930.LCS1

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 4

| Analyte                | Flags | % Rec | LCL | UCL |
|------------------------|-------|-------|-----|-----|
| Total Dissolved Solids |       | 100.6 | 90  | 110 |

#### Duplicate (DUP)

Lab Sample ID: TDS220930.DP1, Parent Sample ID: S40775.04

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | RPD | RPD CL |
|------------------------|-------|-----|--------|
| Total Dissolved Solids |       | 0.9 | 10     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: TSS221003

Surrogates: No, QC Types: BLK/LCS/DUP

#### Blank (BLK)

Lab Sample ID: TSS221003.LRB1

Run in Batch: TSS221003, Run Date: 10/03/2022 19:00, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte                | Flags | Conc | RDL | Units |
|------------------------|-------|------|-----|-------|
| Total Suspended Solids |       | ND   | 3   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: TSS221003.LCS1

Run in Batch: TSS221003, Run Date: 10/03/2022 19:00, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 10

| Analyte                | Flags | % Rec | LCL  | UCL |
|------------------------|-------|-------|------|-----|
| Total Suspended Solids |       | 92.8  | 78.8 | 113 |

#### Duplicate (DUP)

Lab Sample ID: TSS221003.DP1, Parent Sample ID: S40840.01

Run in Batch: TSS221003, Run Date: 10/03/2022 19:00, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | RPD | RPD CL |
|------------------------|-------|-----|--------|
| Total Suspended Solids |       | 0.0 | 10     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: HGD-100322-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: HG-22-1003B.059.LRB

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 15:49, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL  | Units |
|---------|-------|------|------|-------|
| Mercury |       | ND   | 0.20 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HG-22-1003B.058.LCS

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 15:46, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 93    | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1003B.062.MS, Parent Sample ID: S40825.01

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 15:59, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 93    | 80  | 120 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1003B.076.MS, Parent Sample ID: S40874.03

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 16:45, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 92    | 80  | 120 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1003B.063.MSD, Parent Sample ID: HG-22-1003B.062.MS

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 16:02, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 92    | 80  | 120 | 1   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1003B.077.MSD, Parent Sample ID: HG-22-1003B.076.MS

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 16:48, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 90    | 80  | 120 | 2   | 20     |



## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-1005A.021.LRB

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:36, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL    | Units |
|-----------|-------|------|--------|-------|
| Antimony  |       | ND   | 0.001  | mg/L  |
| Barium    |       | ND   | 0.001  | mg/L  |
| Beryllium |       | ND   | 0.0002 | mg/L  |
| Cadmium   |       | ND   | 0.0001 | mg/L  |
| Chromium  |       | ND   | 0.001  | mg/L  |
| Cobalt    |       | ND   | 0.001  | mg/L  |
| Copper    |       | ND   | 0.001  | mg/L  |
| Iron      |       | ND   | 0.004  | mg/L  |
| Lead      |       | ND   | 0.0006 | mg/L  |
| Manganese |       | ND   | 0.001  | mg/L  |
| Nickel    |       | ND   | 0.001  | mg/L  |
| Selenium  |       | ND   | 0.001  | mg/L  |
| Silver    |       | ND   | 0.0001 | mg/L  |
| Thallium  |       | ND   | 0.0004 | mg/L  |
| Vanadium  |       | ND   | 0.001  | mg/L  |
| Zinc      |       | ND   | 0.001  | mg/L  |

#### Blank (BLK)

Lab Sample ID: MT4-22-1005B.017.LRB

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:50, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL    | Units |
|---------|-------|------|--------|-------|
| Arsenic |       | ND   | 0.0004 | mg/L  |

#### Blank (BLK)

Lab Sample ID: MT4-22-1005C.015.LRB

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 15:50, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL  | Units |
|-----------|-------|------|------|-------|
| Calcium   |       | ND   | 0.05 | mg/L  |
| Magnesium |       | ND   | 0.05 | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005A.019.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:33, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 85  | 115 |
| Barium    |       | 99    | 85  | 115 |
| Beryllium |       | 98    | 85  | 115 |
| Cadmium   |       | 100   | 85  | 115 |
| Chromium  |       | 98    | 85  | 115 |
| Cobalt    |       | 99    | 85  | 115 |
| Copper    |       | 100   | 85  | 115 |
| Iron      |       | 107   | 85  | 115 |
| Lead      |       | 102   | 85  | 115 |
| Manganese |       | 98    | 85  | 115 |
| Nickel    |       | 99    | 85  | 115 |
| Selenium  |       | 101   | 85  | 115 |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: MT4-22-1005A.019.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:33, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte  | Flags | % Rec | LCL | UCL |
|----------|-------|-------|-----|-----|
| Silver   |       | 99    | 85  | 115 |
| Thallium |       | 100   | 85  | 115 |
| Vanadium |       | 101   | 85  | 115 |
| Zinc     |       | 97    | 85  | 115 |

### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005B.016.LCS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:49, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 99    | 85  | 115 |

### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005C.014.LCS

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 15:49, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 95    | 85  | 115 |
| Magnesium |       | 98    | 85  | 115 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.042.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:22, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 75  | 125 |
| Barium    |       | 96    | 75  | 125 |
| Beryllium |       | 106   | 75  | 125 |
| Cadmium   |       | 94    | 75  | 125 |
| Chromium  |       | 98    | 75  | 125 |
| Cobalt    |       | 95    | 75  | 125 |
| Copper    |       | 90    | 75  | 125 |
| Iron      |       | 85    | 75  | 125 |
| Lead      |       | 94    | 75  | 125 |
| Manganese |       | 91    | 75  | 125 |
| Nickel    |       | 98    | 75  | 125 |
| Selenium  |       | 104   | 75  | 125 |
| Silver    |       | 91    | 75  | 125 |
| Thallium  |       | 95    | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 97    | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.062.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:58, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 103   | 75  | 125 |
| Barium    |       | 99    | 75  | 125 |
| Beryllium |       | 105   | 75  | 125 |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike (MS) (continued)

Lab Sample ID: MT4-22-1005A.062.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:58, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Cadmium   |       | 102   | 75  | 125 |
| Chromium  |       | 102   | 75  | 125 |
| Cobalt    |       | 100   | 75  | 125 |
| Copper    |       | 97    | 75  | 125 |
| Iron      |       | 107   | 75  | 125 |
| Lead      |       | 100   | 75  | 125 |
| Manganese |       | 98    | 75  | 125 |
| Nickel    |       | 101   | 75  | 125 |
| Selenium  |       | 107   | 75  | 125 |
| Silver    |       | 93    | 75  | 125 |
| Thallium  |       | 102   | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 104   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.029.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 104   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.041.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:10, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 102   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005C.030.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:03, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 88    | 75  | 125 |
| Magnesium |       | 93    | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005C.045.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:17, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 117   | 75  | 125 |
| Magnesium |       | 103   | 75  | 125 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.043.MSD, Parent Sample ID: MT4-22-1005A.042.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:23, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte  | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|----------|-------|-------|-----|-----|-----|--------|
| Antimony |       | 99    | 75  | 125 | 2   | 20     |
| Barium   |       | 96    | 75  | 125 | 0   | 20     |

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

## Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-22-1005A.043.MSD, Parent Sample ID: MT4-22-1005A.042.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:23, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Beryllium |       | 104   | 75  | 125 | 2   | 20     |
| Cadmium   |       | 97    | 75  | 125 | 2   | 20     |
| Chromium  |       | 99    | 75  | 125 | 2   | 20     |
| Cobalt    |       | 99    | 75  | 125 | 4   | 20     |
| Copper    |       | 94    | 75  | 125 | 4   | 20     |
| Iron      |       | 92    | 75  | 125 | 2   | 20     |
| Lead      |       | 94    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 4   | 20     |
| Nickel    |       | 97    | 75  | 125 | 1   | 20     |
| Selenium  |       | 112   | 75  | 125 | 8   | 20     |
| Silver    |       | 91    | 75  | 125 | 1   | 20     |
| Thallium  |       | 96    | 75  | 125 | 1   | 20     |
| Vanadium  |       | 104   | 75  | 125 | 1   | 20     |
| Zinc      |       | 98    | 75  | 125 | 1   | 20     |

## Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 100   | 75  | 125 | 2   | 20     |
| Barium    |       | 99    | 75  | 125 | 0   | 20     |
| Beryllium |       | 105   | 75  | 125 | 0   | 20     |
| Cadmium   |       | 100   | 75  | 125 | 1   | 20     |
| Chromium  |       | 100   | 75  | 125 | 2   | 20     |
| Cobalt    |       | 100   | 75  | 125 | 0   | 20     |
| Copper    |       | 98    | 75  | 125 | 1   | 20     |
| Iron      |       | 105   | 75  | 125 | 2   | 20     |
| Lead      |       | 99    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 2   | 20     |
| Nickel    |       | 98    | 75  | 125 | 3   | 20     |
| Selenium  |       | 107   | 75  | 125 | 0   | 20     |
| Silver    |       | 91    | 75  | 125 | 3   | 20     |
| Thallium  |       | 100   | 75  | 125 | 1   | 20     |
| Vanadium  |       | 102   | 75  | 125 | 1   | 20     |
| Zinc      |       | 106   | 75  | 125 | 3   | 20     |

## Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.030.MSD, Parent Sample ID: MT4-22-1005B.029.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:01, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 104   | 75  | 125 | 1   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.042.MSD, Parent Sample ID: MT4-22-1005B.041.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:11, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 102   | 75  | 125 | 0   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005C.031.MSD, Parent Sample ID: MT4-22-1005C.030.MS

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:04, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Calcium   |       | 81    | 75  | 125 | 1   | 20     |
| Magnesium |       | 96    | 75  | 125 | 1   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005C.046.MSD, Parent Sample ID: MT4-22-1005C.045.MS

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:18, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Calcium   |       | 103   | 75  | 125 | 2   | 20     |
| Magnesium |       | 103   | 75  | 125 | 0   | 20     |

## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22093003.sblk-w.01

Run in Batch: A220930, Run Date: 09/30/2022 10:50, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:15, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 88.84 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22093005.slcs-w.01d, Parent Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:30, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------|-------|-------|------|-------|-----|--------|
| PCB-1016/1260 |       | 86.44 | 50.0 | 125.0 | 2.7 | 20.0   |

## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22100503.sblk-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:53, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 70.22 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100505.slcs-w.01d, Parent Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 11:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------|-------|-------|------|-------|------|--------|
| PCB-1016/1260 |       | 79.24 | 50.0 | 125.0 | 12.1 | 20.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Blank (BLK)

Lab Sample ID: 221005A9.BLKW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 11:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |



**Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)**

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

**Blank (BLK) (continued)**

Lab Sample ID: 221005A9.BLKW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 11:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

**Laboratory Control Sample (LCS)**

Lab Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:29, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 91.2  | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 94.6  | 44.0 | 134.4 |
| Benzene                        |       | 100.3 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 98.2  | 80.4 | 128.2 |
| Bromoform                      |       | 95.2  | 69.4 | 128.0 |
| Bromomethane                   |       | 103.3 | 56.8 | 151.3 |
| Carbon disulfide               |       | 93.6  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 93.7  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 96.3  | 79.2 | 122.7 |
| Chloroethane                   |       | 103.1 | 53.4 | 149.4 |
| Chloroform                     |       | 97.9  | 78.4 | 124.0 |
| Chloromethane                  |       | 110.8 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 103.2 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 97.5  | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 94.2  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 101.7 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 94.9  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 96.4  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 99.0  | 76.6 | 122.1 |
| Dibromochloromethane           |       | 97.8  | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 99.1  | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 98.4  | 73.6 | 129.3 |
| Ethylbenzene                   |       | 97.1  | 79.5 | 129.1 |
| 2-Hexanone                     |       | 100.2 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 103.8 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 104.1 | 73.2 | 122.4 |
| Methylene chloride             |       | 102.4 | 73.3 | 121.1 |
| Styrene                        |       | 97.3  | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 94.1  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 100.6 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 102.1 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 94.5  | 74.5 | 124.5 |
| Toluene                        |       | 98.0  | 79.8 | 124.5 |
| Trichloroethene                |       | 98.0  | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 104.5 | 59.7 | 151.8 |
| Vinyl chloride                 |       | 113.1 | 43.5 | 149.1 |
| o-Xylene                       |       | 96.9  | 80.2 | 131.0 |
| p,m-Xylene                     |       | 96.3  | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:29, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 96.3  | 74.4 | 121.5 |
| Cyclohexane                           |       | 91.8  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 99.5  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 94.9  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 101.6 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 98.5  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 96.3  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 100.4 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 98.9  | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 102.3 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 100.7 | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005A9.LCSDW05A, Parent Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:49, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------------------------|-------|-------|------|-------|-----|--------|
| Acetone                        |       | 88.2  | 29.9 | 161.5 | 3.4 | 30.0   |
| 2-Butanone (MEK)               |       | 92.4  | 44.0 | 134.4 | 2.4 | 30.0   |
| Benzene                        |       | 100.9 | 79.9 | 124.9 | 0.6 | 30.0   |
| Bromodichloromethane           |       | 97.8  | 80.4 | 128.2 | 0.4 | 30.0   |
| Bromoform                      |       | 93.8  | 69.4 | 128.0 | 1.5 | 30.0   |
| Bromomethane                   |       | 103.4 | 56.8 | 151.3 | 0.1 | 30.0   |
| Carbon disulfide               |       | 95.2  | 63.8 | 137.4 | 1.8 | 30.0   |
| Carbon tetrachloride           |       | 94.9  | 72.6 | 133.0 | 1.3 | 30.0   |
| Chlorobenzene                  |       | 99.0  | 79.2 | 122.7 | 2.7 | 30.0   |
| Chloroethane                   |       | 102.3 | 53.4 | 149.4 | 0.8 | 30.0   |
| Chloroform                     |       | 98.3  | 78.4 | 124.0 | 0.4 | 30.0   |
| Chloromethane                  |       | 110.7 | 23.8 | 166.5 | 0.0 | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 103.8 | 21.2 | 189.4 | 0.6 | 30.0   |
| 1,2-Dichlorobenzene            |       | 100.4 | 10.0 | 166.2 | 2.9 | 30.0   |
| 1,2-Dichloroethane             |       | 92.8  | 76.0 | 126.3 | 1.5 | 30.0   |
| 1,2-Dichloropropane            |       | 101.2 | 78.6 | 126.4 | 0.5 | 30.0   |
| 1,3-Dichlorobenzene            |       | 98.6  | 77.0 | 131.3 | 3.8 | 30.0   |
| 1,4-Dichlorobenzene            |       | 97.6  | 20.7 | 137.7 | 1.3 | 30.0   |
| cis-1,2-Dichloroethene         |       | 99.5  | 76.6 | 122.1 | 0.5 | 30.0   |
| Dibromochloromethane           |       | 97.6  | 74.6 | 127.2 | 0.1 | 30.0   |
| Dichlorodifluoromethane        |       | 99.0  | 10.0 | 222.8 | 0.0 | 30.0   |
| trans-1,2-Dichloroethene       |       | 99.4  | 73.6 | 129.3 | 1.0 | 30.0   |
| Ethylbenzene                   |       | 100.0 | 79.5 | 129.1 | 3.0 | 30.0   |
| 2-Hexanone                     |       | 98.8  | 55.4 | 136.9 | 1.4 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 101.6 | 71.6 | 125.2 | 2.2 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 101.0 | 73.2 | 122.4 | 3.0 | 30.0   |
| Methylene chloride             |       | 102.1 | 73.3 | 121.1 | 0.3 | 30.0   |
| Styrene                        |       | 98.6  | 69.5 | 126.7 | 1.3 | 30.0   |
| 1,1,1-Trichloroethane          |       | 95.5  | 79.4 | 130.9 | 1.5 | 30.0   |
| 1,1,2-Trichloroethane          |       | 98.8  | 78.7 | 123.1 | 1.8 | 30.0   |

**Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)**

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

**Laboratory Control Sample Duplicate (LCSD) (continued)**

Lab Sample ID: 221005A9.LCSDW05A, Parent Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:49, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 101.9 | 27.4 | 143.4 | 0.2 | 30.0   |
| Tetrachloroethene                     |       | 96.4  | 74.5 | 124.5 | 2.0 | 30.0   |
| Toluene                               |       | 98.5  | 79.8 | 124.5 | 0.5 | 30.0   |
| Trichloroethene                       |       | 98.7  | 79.7 | 124.2 | 0.8 | 30.0   |
| Trichlorofluoromethane                |       | 106.2 | 59.7 | 151.8 | 1.6 | 30.0   |
| Vinyl chloride                        |       | 115.3 | 43.5 | 149.1 | 1.9 | 30.0   |
| o-Xylene                              |       | 99.4  | 80.2 | 131.0 | 2.6 | 30.0   |
| p,m-Xylene                            |       | 98.4  | 79.4 | 132.2 | 2.2 | 30.0   |
| Isopropylbenzene                      |       | 99.0  | 74.4 | 121.5 | 2.8 | 30.0   |
| Cyclohexane                           |       | 92.7  | 10.0 | 169.1 | 1.1 | 30.0   |
| 1,1-Dichloroethane                    |       | 100.5 | 71.5 | 126.2 | 1.0 | 30.0   |
| 1,1-Dichloroethene                    |       | 96.1  | 69.6 | 139.4 | 1.3 | 30.0   |
| Methyl Acetate                        |       | 100.8 | 64.7 | 125.4 | 0.7 | 30.0   |
| Methyl cyclohexane                    |       | 99.9  | 76.6 | 131.3 | 1.4 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 96.1  | 75.1 | 135.9 | 0.2 | 30.0   |
| 1,2-Dibromoethane                     |       | 100.4 | 70.3 | 133.7 | 0.0 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 98.7  | 79.8 | 126.3 | 0.3 | 30.0   |
| cis-1,3-Dichloropropene               |       | 101.6 | 79.8 | 129.9 | 0.7 | 30.0   |
| trans-1,3-Dichloropropene             |       | 101.2 | 74.0 | 131.3 | 0.5 | 30.0   |

**Matrix Spike (MS)**

Lab Sample ID: 221005A9.4078203M, Parent Sample ID: S40782.02

Run in Batch: 221005A9, Run Date: 10/05/2022 10:08, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   |
|-----------------------------|-------|-------|------|-------|
| Acetone                     |       | 91.7  | 29.9 | 161.5 |
| 2-Butanone (MEK)            |       | 98.0  | 44.0 | 134.4 |
| Benzene                     |       | 106.9 | 79.9 | 124.9 |
| Bromodichloromethane        |       | 104.5 | 80.4 | 128.2 |
| Bromoform                   |       | 100.5 | 69.4 | 128.0 |
| Bromomethane                |       | 112.6 | 56.8 | 151.3 |
| Carbon disulfide            |       | 102.0 | 63.8 | 137.4 |
| Carbon tetrachloride        |       | 98.1  | 72.6 | 133.0 |
| Chlorobenzene               |       | 103.0 | 79.2 | 122.7 |
| Chloroethane                |       | 111.1 | 53.4 | 149.4 |
| Chloroform                  |       | 106.3 | 78.4 | 124.0 |
| Chloromethane               |       | 124.0 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane |       | 104.5 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene         |       | 100.5 | 10.0 | 166.2 |
| 1,2-Dichloroethane          |       | 98.7  | 76.0 | 126.3 |
| 1,2-Dichloropropane         |       | 108.3 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene         |       | 98.1  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene         |       | 99.4  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene      |       | 106.9 | 76.6 | 122.1 |
| Dibromochloromethane        |       | 103.1 | 74.6 | 127.2 |
| Dichlorodifluoromethane     |       | 105.2 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene    |       | 105.4 | 73.6 | 129.3 |

**Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)**

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

**Matrix Spike (MS) (continued)**

Lab Sample ID: 221005A9.4078203M, Parent Sample ID: S40782.02

Run in Batch: 221005A9, Run Date: 10/05/2022 10:08, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Ethylbenzene                          |       | 102.5 | 79.5 | 129.1 |
| 2-Hexanone                            |       | 109.4 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)           |       | 109.5 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE)        |       | 110.9 | 73.2 | 122.4 |
| Methylene chloride                    |       | 110.3 | 73.3 | 121.1 |
| Styrene                               |       | 102.2 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane                 |       | 100.9 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane                 |       | 106.9 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene                |       | 102.7 | 27.4 | 143.4 |
| Tetrachloroethene                     |       | 99.8  | 74.5 | 124.5 |
| Toluene                               |       | 104.7 | 79.8 | 124.5 |
| Trichloroethene                       |       | 103.6 | 79.7 | 124.2 |
| Trichlorofluoromethane                |       | 111.3 | 59.7 | 151.8 |
| Vinyl chloride                        |       | 123.2 | 43.5 | 149.1 |
| o-Xylene                              |       | 103.1 | 80.2 | 131.0 |
| p,m-Xylene                            |       | 100.5 | 79.4 | 132.2 |
| Isopropylbenzene                      |       | 100.0 | 74.4 | 121.5 |
| Cyclohexane                           |       | 98.2  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 107.2 | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 100.9 | 69.6 | 139.4 |
| Methyl Acetate                        |       | 96.7  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 99.3  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 100.7 | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 105.9 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 102.3 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 108.9 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 107.9 | 74.0 | 131.3 |

**Matrix Spike Duplicate (MSD)**

Lab Sample ID: 221005A9.4078204N, Parent Sample ID: 221005A9.4078203M

Run in Batch: 221005A9, Run Date: 10/05/2022 10:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-----------------------------|-------|-------|------|-------|-----|--------|
| Acetone                     |       | 98.3  | 29.9 | 161.5 | 6.5 | 30.0   |
| 2-Butanone (MEK)            |       | 106.9 | 44.0 | 134.4 | 8.7 | 30.0   |
| Benzene                     |       | 104.0 | 79.9 | 124.9 | 2.7 | 30.0   |
| Bromodichloromethane        |       | 102.6 | 80.4 | 128.2 | 1.9 | 30.0   |
| Bromoform                   |       | 100.1 | 69.4 | 128.0 | 0.4 | 30.0   |
| Bromomethane                |       | 108.4 | 56.8 | 151.3 | 3.8 | 30.0   |
| Carbon disulfide            |       | 99.1  | 63.8 | 137.4 | 2.9 | 30.0   |
| Carbon tetrachloride        |       | 94.2  | 72.6 | 133.0 | 4.0 | 30.0   |
| Chlorobenzene               |       | 99.3  | 79.2 | 122.7 | 3.7 | 30.0   |
| Chloroethane                |       | 107.2 | 53.4 | 149.4 | 3.6 | 30.0   |
| Chloroform                  |       | 102.6 | 78.4 | 124.0 | 3.6 | 30.0   |
| Chloromethane               |       | 119.0 | 23.8 | 166.5 | 4.1 | 30.0   |
| 1,2-Dibromo-3-chloropropane |       | 108.9 | 21.2 | 189.4 | 4.1 | 30.0   |
| 1,2-Dichlorobenzene         |       | 99.5  | 10.0 | 166.2 | 1.0 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 221005A9.4078204N, Parent Sample ID: 221005A9.4078203M

Run in Batch: 221005A9, Run Date: 10/05/2022 10:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2-Dichloroethane                    |       | 97.3  | 76.0 | 126.3 | 1.5 | 30.0   |
| 1,2-Dichloropropane                   |       | 104.6 | 78.6 | 126.4 | 3.4 | 30.0   |
| 1,3-Dichlorobenzene                   |       | 98.6  | 77.0 | 131.3 | 0.5 | 30.0   |
| 1,4-Dichlorobenzene                   |       | 97.6  | 20.7 | 137.7 | 1.8 | 30.0   |
| cis-1,2-Dichloroethene                |       | 103.6 | 76.6 | 122.1 | 3.2 | 30.0   |
| Dibromochloromethane                  |       | 101.4 | 74.6 | 127.2 | 1.6 | 30.0   |
| Dichlorodifluoromethane               |       | 98.7  | 10.0 | 222.8 | 6.4 | 30.0   |
| trans-1,2-Dichloroethene              |       | 102.0 | 73.6 | 129.3 | 3.3 | 30.0   |
| Ethylbenzene                          |       | 99.7  | 79.5 | 129.1 | 2.8 | 30.0   |
| 2-Hexanone                            |       | 112.9 | 55.4 | 136.9 | 3.2 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)           |       | 116.2 | 71.6 | 125.2 | 6.0 | 30.0   |
| tert-Methyl butyl ether (MTBE)        |       | 109.9 | 73.2 | 122.4 | 0.9 | 30.0   |
| Methylene chloride                    |       | 108.0 | 73.3 | 121.1 | 2.1 | 30.0   |
| Styrene                               |       | 100.4 | 69.5 | 126.7 | 1.8 | 30.0   |
| 1,1,1-Trichloroethane                 |       | 97.4  | 79.4 | 130.9 | 3.6 | 30.0   |
| 1,1,2-Trichloroethane                 |       | 104.9 | 78.7 | 123.1 | 1.9 | 30.0   |
| 1,2,4-Trichlorobenzene                |       | 103.2 | 27.4 | 143.4 | 0.5 | 30.0   |
| Tetrachloroethene                     |       | 96.8  | 74.5 | 124.5 | 3.0 | 30.0   |
| Toluene                               |       | 100.9 | 79.8 | 124.5 | 3.6 | 30.0   |
| Trichloroethene                       |       | 100.9 | 79.7 | 124.2 | 2.6 | 30.0   |
| Trichlorofluoromethane                |       | 107.7 | 59.7 | 151.8 | 3.3 | 30.0   |
| Vinyl chloride                        |       | 117.3 | 43.5 | 149.1 | 4.9 | 30.0   |
| o-Xylene                              |       | 100.0 | 80.2 | 131.0 | 3.1 | 30.0   |
| p,m-Xylene                            |       | 98.1  | 79.4 | 132.2 | 2.4 | 30.0   |
| Isopropylbenzene                      |       | 97.1  | 74.4 | 121.5 | 3.0 | 30.0   |
| Cyclohexane                           |       | 94.0  | 10.0 | 169.1 | 4.3 | 30.0   |
| 1,1-Dichloroethane                    |       | 104.7 | 71.5 | 126.2 | 2.4 | 30.0   |
| 1,1-Dichloroethene                    |       | 97.4  | 69.6 | 139.4 | 3.5 | 30.0   |
| Methyl Acetate                        |       | 98.8  | 64.7 | 125.4 | 2.1 | 30.0   |
| Methyl cyclohexane                    |       | 97.0  | 76.6 | 131.3 | 2.3 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 96.8  | 75.1 | 135.9 | 3.9 | 30.0   |
| 1,2-Dibromoethane                     |       | 104.6 | 70.3 | 133.7 | 1.2 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 104.0 | 79.8 | 126.3 | 1.6 | 30.0   |
| cis-1,3-Dichloropropene               |       | 106.1 | 79.8 | 129.9 | 2.6 | 30.0   |
| trans-1,3-Dichloropropene             |       | 106.7 | 74.0 | 131.3 | 1.2 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221006W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 221006A7.BLKW06A

Run in Batch: 221006A7, Run Date: 10/06/2022 13:30, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221006W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Blank (BLK) (continued)

Lab Sample ID: 221006A7.BLKW06A

Run in Batch: 221006A7, Run Date: 10/06/2022 13:30, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 221006A7.LCSW06A

Run in Batch: 221006A7, Run Date: 10/06/2022 11:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 79.8  | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 82.1  | 44.0 | 134.4 |
| Benzene                        |       | 99.8  | 79.9 | 124.9 |
| Bromodichloromethane           |       | 94.6  | 80.4 | 128.2 |
| Bromoform                      |       | 95.2  | 69.4 | 128.0 |
| Bromomethane                   |       | 98.4  | 56.8 | 151.3 |
| Carbon disulfide               |       | 86.6  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 82.9  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 105.8 | 79.2 | 122.7 |
| Chloroethane                   |       | 92.5  | 53.4 | 149.4 |
| Chloroform                     |       | 94.9  | 78.4 | 124.0 |
| Chloromethane                  |       | 94.2  | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 92.1  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 102.7 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 87.3  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 96.7  | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 101.2 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 102.0 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 98.6  | 76.6 | 122.1 |
| Dibromochloromethane           |       | 97.5  | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 93.1  | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 90.2  | 73.6 | 129.3 |
| Ethylbenzene                   |       | 103.6 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 87.3  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 89.7  | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 94.8  | 73.2 | 122.4 |
| Methylene chloride             |       | 97.8  | 73.3 | 121.1 |
| Styrene                        |       | 104.4 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 86.0  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 99.8  | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 112.6 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 103.5 | 74.5 | 124.5 |
| Toluene                        |       | 99.7  | 79.8 | 124.5 |
| Trichloroethene                |       | 98.1  | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 87.8  | 59.7 | 151.8 |
| Vinyl chloride                 |       | 96.1  | 43.5 | 149.1 |
| o-Xylene                       |       | 102.4 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 101.9 | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221006W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221006A7.LCSW06A

Run in Batch: 221006A7, Run Date: 10/06/2022 11:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 103.6 | 74.4 | 121.5 |
| Cyclohexane                           |       | 80.6  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 91.6  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 86.2  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 88.0  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 95.4  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 94.4  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 102.9 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 100.1 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 98.0  | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 94.2  | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221006A7.LCSDW06A, Parent Sample ID: 221006A7.LCSW06A

Run in Batch: 221006A7, Run Date: 10/06/2022 12:20, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|--------------------------------|-------|-------|------|-------|------|--------|
| Acetone                        |       | 69.6  | 29.9 | 161.5 | 13.7 | 30.0   |
| 2-Butanone (MEK)               |       | 70.3  | 44.0 | 134.4 | 15.5 | 30.0   |
| Benzene                        |       | 94.0  | 79.9 | 124.9 | 6.0  | 30.0   |
| Bromodichloromethane           |       | 88.9  | 80.4 | 128.2 | 6.1  | 30.0   |
| Bromoform                      |       | 87.3  | 69.4 | 128.0 | 8.6  | 30.0   |
| Bromomethane                   |       | 93.0  | 56.8 | 151.3 | 5.7  | 30.0   |
| Carbon disulfide               |       | 81.6  | 63.8 | 137.4 | 5.9  | 30.0   |
| Carbon tetrachloride           |       | 77.7  | 72.6 | 133.0 | 6.5  | 30.0   |
| Chlorobenzene                  |       | 98.2  | 79.2 | 122.7 | 7.4  | 30.0   |
| Chloroethane                   |       | 86.2  | 53.4 | 149.4 | 7.1  | 30.0   |
| Chloroform                     |       | 89.4  | 78.4 | 124.0 | 6.0  | 30.0   |
| Chloromethane                  |       | 85.7  | 23.8 | 166.5 | 9.5  | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 77.7  | 21.2 | 189.4 | 17.0 | 30.0   |
| 1,2-Dichlorobenzene            |       | 96.2  | 10.0 | 166.2 | 6.6  | 30.0   |
| 1,2-Dichloroethane             |       | 81.9  | 76.0 | 126.3 | 6.4  | 30.0   |
| 1,2-Dichloropropane            |       | 91.0  | 78.6 | 126.4 | 6.1  | 30.0   |
| 1,3-Dichlorobenzene            |       | 94.2  | 77.0 | 131.3 | 7.1  | 30.0   |
| 1,4-Dichlorobenzene            |       | 94.6  | 20.7 | 137.7 | 7.6  | 30.0   |
| cis-1,2-Dichloroethene         |       | 92.8  | 76.6 | 122.1 | 6.1  | 30.0   |
| Dibromochloromethane           |       | 91.1  | 74.6 | 127.2 | 6.7  | 30.0   |
| Dichlorodifluoromethane        |       | 86.1  | 10.0 | 222.8 | 7.8  | 30.0   |
| trans-1,2-Dichloroethene       |       | 83.8  | 73.6 | 129.3 | 7.3  | 30.0   |
| Ethylbenzene                   |       | 96.2  | 79.5 | 129.1 | 7.4  | 30.0   |
| 2-Hexanone                     |       | 75.8  | 55.4 | 136.9 | 14.2 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 79.6  | 71.6 | 125.2 | 11.8 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 87.5  | 73.2 | 122.4 | 8.1  | 30.0   |
| Methylene chloride             |       | 91.5  | 73.3 | 121.1 | 6.7  | 30.0   |
| Styrene                        |       | 97.8  | 69.5 | 126.7 | 6.5  | 30.0   |
| 1,1,1-Trichloroethane          |       | 80.3  | 79.4 | 130.9 | 6.9  | 30.0   |
| 1,1,2-Trichloroethane          |       | 94.2  | 78.7 | 123.1 | 5.8  | 30.0   |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221006W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 221006A7.LCSDW06A, Parent Sample ID: 221006A7.LCSW06A

Run in Batch: 221006A7, Run Date: 10/06/2022 12:20, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| 1,2,4-Trichlorobenzene                |       | 103.5 | 27.4 | 143.4 | 8.4  | 30.0   |
| Tetrachloroethene                     |       | 96.8  | 74.5 | 124.5 | 6.6  | 30.0   |
| Toluene                               |       | 93.4  | 79.8 | 124.5 | 6.5  | 30.0   |
| Trichloroethene                       |       | 90.8  | 79.7 | 124.2 | 7.7  | 30.0   |
| Trichlorofluoromethane                |       | 80.5  | 59.7 | 151.8 | 8.8  | 30.0   |
| Vinyl chloride                        |       | 89.7  | 43.5 | 149.1 | 6.9  | 30.0   |
| o-Xylene                              |       | 95.9  | 80.2 | 131.0 | 6.6  | 30.0   |
| p,m-Xylene                            |       | 95.4  | 79.4 | 132.2 | 6.6  | 30.0   |
| Isopropylbenzene                      |       | 97.1  | 74.4 | 121.5 | 6.4  | 30.0   |
| Cyclohexane                           |       | 73.7  | 10.0 | 169.1 | 8.9  | 30.0   |
| 1,1-Dichloroethane                    |       | 85.4  | 71.5 | 126.2 | 7.0  | 30.0   |
| 1,1-Dichloroethene                    |       | 79.1  | 69.6 | 139.4 | 8.6  | 30.0   |
| Methyl Acetate                        |       | 77.5  | 64.7 | 125.4 | 12.7 | 30.0   |
| Methyl cyclohexane                    |       | 87.5  | 76.6 | 131.3 | 8.6  | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 86.2  | 75.1 | 135.9 | 9.0  | 30.0   |
| 1,2-Dibromoethane                     |       | 93.8  | 70.3 | 133.7 | 9.3  | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 88.6  | 79.8 | 126.3 | 12.2 | 30.0   |
| cis-1,3-Dichloropropene               |       | 91.7  | 79.8 | 129.9 | 6.7  | 30.0   |
| trans-1,3-Dichloropropene             |       | 88.5  | 74.0 | 131.3 | 6.2  | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | Conc | RDL  | Units |
|-------------|-------|------|------|-------|
| 1,4-Dioxane | *     | 0.33 | 0.02 | ug/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   |
|-------------|-------|-------|------|-------|
| 1,4-Dioxane |       | 90.5  | 70.0 | 130.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-------------|-------|-------|------|-------|-----|--------|
| 1,4-Dioxane |       | 90.2  | 70.0 | 130.0 | 0.4 | 30.0   |

## REPORT TO

|                                                     |          |                     |  |
|-----------------------------------------------------|----------|---------------------|--|
| CONTACT NAME                                        |          | ALEXIS CRISP        |  |
| COMPANY                                             |          | ARCADIS             |  |
| ADDRESS                                             |          | 28550 CABOT DR #500 |  |
| CITY                                                | STATE    | ZIP CODE            |  |
| NOVI                                                | MI       | 48377               |  |
| PHONE NO.                                           | CELL NO. | P.O. NO.            |  |
| —                                                   | —        | 30112891.06606      |  |
| E-MAIL ADDRESS                                      |          | QUOTE NO.           |  |
| ALEXIS.CRISP@ARCADIS.COM TIFFANY.LINDER@ARCADIS.COM |          | —                   |  |

## CHAIN OF CUSTODY RECORD

|              |  |                                              |  |                               |          |
|--------------|--|----------------------------------------------|--|-------------------------------|----------|
| CONTACT NAME |  | ACCOUNTS PAYABLE                             |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  | ARCADIS                                      |  |                               |          |
| ADDRESS      |  | 630 PLAZA DRIVE STE #600                     |  |                               |          |
| CITY         |  | HIGHLANDS RANCH                              |  | STATE                         | ZIP CODE |
|              |  | CO                                           |  | 80129                         |          |
| PHONE NO.    |  | E-MAIL ADDRESS                               |  |                               |          |
|              |  | ACCOUNTS PAYABLE, ADMINISTRATION@ARCADIS.COM |  |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                                                       |                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| PROJECT NO./NAME<br><b>RACER PNC / 30112891.00006</b>                                                                                                                                                                                                 | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>CHRISTINA WEAVER</b> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <del><input checked="" type="checkbox"/> 2 DAYS</del> <sup>2 1/2 DAYS</sup> <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____ |                                                                |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER _____     |                                                                |

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

## # Containers & Preservatives

[illegible]

|                        |                    |         |      |
|------------------------|--------------------|---------|------|
| RELINQUISHED BY:       | <i>[Signature]</i> | DATE    | TIME |
| SIGNATURE/ORGANIZATION | ARCADIS            | 9/28/22 | 1300 |
| RECEIVED BY:           | <i>[Signature]</i> | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                    | 9/28/22 | 1300 |
| RELINQUISHED BY:       | <i>[Signature]</i> | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                    | 9/28/22 | 1600 |
| RECEIVED BY:           | <i>[Signature]</i> | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                    | 9/28/22 | 1600 |

|                        |                                                                         |          |        |                             |
|------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:       |                                                                         |          | DATE   | TIME                        |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                             |
| RECEIVED BY:           |                                                                         |          | DATE   | TIME                        |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                             |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.8</u> |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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



# Analytical Laboratory Report

Report ID: S40841.01(01)  
Generated on 10/11/2022

## 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, Ian Drost

## 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): S40841.01-S40841.06  
Project: 30112891.00006 / Racer PNC  
Collected Date(s): 09/27/2022 - 09/28/2022  
Submitted Date/Time: 09/28/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                                                |
|---------------|------------------------------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                                          |
| E245.1        | EPA Method 245.1 Revision 3.0                                          |
| E608.3        | EPA Method 608.3 December 2016                                         |
| N/A           | Not Applicable                                                         |
| SM2320B       | Standard Method 2320 B 2011                                            |
| SM2340C       | Standard Method 2340 C 2011                                            |
| SM2540C       | Standard Method 2540 C 2015                                            |
| SM2540D       | Standard Method 2540 D 2015                                            |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007                           |
| SW5030C/8260C | SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003 |
| SW8260B - SIM | SW 846 Method 8260B Revision 2 December 1996 SIMs                      |



## Analytical Laboratory Report

### Sample Summary (6 samples)

| Sample ID | Sample Tag            | Matrix      | Collected Date/Time |
|-----------|-----------------------|-------------|---------------------|
| S40841.01 | TW-MD-03_GW-092722    | Groundwater | 09/27/22 15:00      |
| S40841.02 | MWW10-03_GW-092722    | Groundwater | 09/27/22 16:50      |
| S40841.03 | DUP-02_GW-092722      | Groundwater | 09/27/22 00:01      |
| S40841.04 | tripblank_23          | Water       | 09/27/22 00:01      |
| S40841.05 | MWW01-SEN03_GW-092822 | Groundwater | 09/28/22 10:30      |
| S40841.06 | MWW01-SEN04_GW-092822 | Groundwater | 09/28/22 12:15      |





# Analytical Laboratory Report

Lab Sample ID: S40841.01

Sample Tag: TW-MD-03\_GW-092722

Collected Date/Time: 09/27/2022 15:00

Matrix: Groundwater

COC Reference: 154493

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.8               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 3.8               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 3.8               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 3.8               | IR            |
| 2 | 1L Amber      | None            | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 13:33 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Inorganics

Method: SM2320B, Run Date: 10/11/22 11:26, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 338    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:40, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 332    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,390  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 10/03/22 19:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 17     | 3  |     | mg/L  | 1.33     |      |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:54, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Arsenic   | 0.004  | 0.002 |     | mg/L  | 5        | 7440-38-2 |       |

Method: E200.8, Run Date: 10/05/22 11:57, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Barium    | 0.106        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 8.70         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.01 (continued)

Sample Tag: TW-MD-03\_GW-092722

Method: E200.8, Run Date: 10/05/22 11:57, Analyst: CCM (continued)

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Manganese | 1.64         | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | 0.007        | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

Method: E200.8, Run Date: 10/05/22 15:57, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 128    | 1.0  |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 25.8   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

Method: E245.1, Run Date: 10/03/22 16:15, Analyst: CTV

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/03/22 21:05, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 16:39, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.01 (continued)

Sample Tag: TW-MD-03\_GW-092722

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 16:39, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| cis-1,2-Dichloroethene                | Not detected | 1  |     | ug/L  | 1        | 156-59-2   |       |
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.02

Sample Tag: MWW10-03\_GW-092722

Collected Date/Time: 09/27/2022 16:50

Matrix: Groundwater

COC Reference: 154493

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.8               | IR            |
| 2 | 125ml Plastic | HNO3            | Yes           | 3.8               | IR            |
| 2 | 1L Amber      | None            | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 11:00 | CCM     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 11:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Metals

Method: E200.8, Run Date: 10/05/22 13:51, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Lead      | 0.095  | 0.015 |     | mg/L  | 25       | 7439-92-1 |       |
| Manganese | 11.1   | 0.025 |     | mg/L  | 25       | 7439-96-5 |       |

Method: E200.8, Run Date: 10/05/22 13:54, Analyst: CCM

| Parameter            | Result       | RL    | MDL | Units | Dilution | CAS#      | Flags |
|----------------------|--------------|-------|-----|-------|----------|-----------|-------|
| Lead, Dissolved      | Not detected | 0.003 |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese, Dissolved | 0.084        | 0.005 |     | mg/L  | 5        | 7439-96-5 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/03/22 21:17, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 16:58, Analyst: BML

| Parameter            | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|----------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone              | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)     | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene              | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform            | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane         | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide     | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene        | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.02 (continued)

Sample Tag: MWW10-03\_GW-092722

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 16:58, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| Chloroethane                          | Not detected | 5  |     | ug/L  | 1        | 75-00-3    |       |
| Chloroform                            | Not detected | 1  |     | ug/L  | 1        | 67-66-3    |       |
| Chloromethane                         | Not detected | 5  |     | ug/L  | 1        | 74-87-3    |       |
| 1,2-Dibromo-3-chloropropane           | Not detected | 5  |     | ug/L  | 1        | 96-12-8    |       |
| 1,2-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 95-50-1    |       |
| 1,2-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 107-06-2   |       |
| 1,2-Dichloropropane                   | Not detected | 1  |     | ug/L  | 1        | 78-87-5    |       |
| 1,3-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 541-73-1   |       |
| 1,4-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 106-46-7   |       |
| cis-1,2-Dichloroethene                | Not detected | 1  |     | ug/L  | 1        | 156-59-2   |       |
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.03

Sample Tag: DUP-02\_GW-092722

Collected Date/Time: 09/27/2022 00:01

Matrix: Groundwater

COC Reference: 154493

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.8               | IR            |
| 2 | 125ml Plastic | HNO3            | Yes           | 3.8               | IR            |
| 2 | 1L Amber      | None            | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 11:00 | CCM     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 11:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 09/29/22 13:30 | JWR     |       |

## Metals

Method: E200.8, Run Date: 10/05/22 13:57, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Lead      | 0.028  | 0.015 |     | mg/L  | 25       | 7439-92-1 |       |
| Manganese | 4.45   | 0.025 |     | mg/L  | 25       | 7439-96-5 |       |

Method: E200.8, Run Date: 10/05/22 14:00, Analyst: CCM

| Parameter            | Result       | RL    | MDL | Units | Dilution | CAS#      | Flags |
|----------------------|--------------|-------|-----|-------|----------|-----------|-------|
| Lead, Dissolved      | Not detected | 0.003 |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese, Dissolved | 0.077        | 0.005 |     | mg/L  | 5        | 7439-96-5 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/03/22 21:29, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 17:18, Analyst: BML

| Parameter            | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|----------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone              | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)     | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene              | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform            | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane         | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide     | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene        | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.03 (continued)

Sample Tag: DUP-02\_GW-092722

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 17:18, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| Chloroethane                          | Not detected | 5  |     | ug/L  | 1        | 75-00-3    |       |
| Chloroform                            | Not detected | 1  |     | ug/L  | 1        | 67-66-3    |       |
| Chloromethane                         | Not detected | 5  |     | ug/L  | 1        | 74-87-3    |       |
| 1,2-Dibromo-3-chloropropane           | Not detected | 5  |     | ug/L  | 1        | 96-12-8    |       |
| 1,2-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 95-50-1    |       |
| 1,2-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 107-06-2   |       |
| 1,2-Dichloropropane                   | Not detected | 1  |     | ug/L  | 1        | 78-87-5    |       |
| 1,3-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 541-73-1   |       |
| 1,4-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 106-46-7   |       |
| cis-1,2-Dichloroethene                | Not detected | 1  |     | ug/L  | 1        | 156-59-2   |       |
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.04

Sample Tag: tripblank\_23

Collected Date/Time: 09/27/2022 00:01

Matrix: Water

COC Reference: 154493

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 12:23, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |





# Analytical Laboratory Report

Lab Sample ID: S40841.04 (continued)

Sample Tag: tripblank\_23

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 12:23, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.05

Sample Tag: MWW01-SEN03\_GW-092822

Collected Date/Time: 09/28/2022 10:30

Matrix: Groundwater

COC Reference: 154493

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.8               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 3.8               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 3.8               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 3.8               | IR            |
| 2 | 1L Amber      | None            | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 13:33 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 10/04/22 15:00 | TAW     |       |

## Inorganics

Method: SM2320B, Run Date: 10/11/22 11:28, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 306    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:42, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 124    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,230  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 10/03/22 19:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 38     | 3  |     | mg/L  | 2        |      |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:55, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Arsenic   | 0.005  | 0.002 |     | mg/L  | 5        | 7440-38-2 |       |

Method: E200.8, Run Date: 10/05/22 12:00, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Barium    | 0.115        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | 0.006        | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 17.3         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.05 (continued)  
Sample Tag: MWW01-SEN03\_GW-092822

**Method: E200.8, Run Date: 10/05/22 12:00, Analyst: CCM (continued)**

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Manganese | 0.308        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | 0.005        | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | 0.005        | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

**Method: E200.8, Run Date: 10/05/22 15:59, Analyst: CCM**

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 48.6   | 1.0  |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 13.5   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

**Method: E245.1, Run Date: 10/03/22 16:19, Analyst: CTV**

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

**Organics - PCBs/Pesticides**

**PCB, Method: E608.3, Run Date: 10/05/22 11:33, Analyst: JANB**

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

**Organics - Volatiles**

**Method: SW8260B - SIM, Run Date: 10/08/22 00:08, Analyst: KAG**

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 8      | 1  |     | ug/L  | 1        | 123-91-1 |       |

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 17:37, Analyst: BML**

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.05 (continued)  
Sample Tag: MWW01-SEN03\_GW-092822

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 17:37, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| 1,2-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 107-06-2   |       |
| 1,2-Dichloropropane                   | Not detected | 1  |     | ug/L  | 1        | 78-87-5    |       |
| 1,3-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 541-73-1   |       |
| 1,4-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 106-46-7   |       |
| cis-1,2-Dichloroethene                | Not detected | 1  |     | ug/L  | 1        | 156-59-2   |       |
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | 1            | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.06

Sample Tag: MWW01-SEN04\_GW-092822

Collected Date/Time: 09/28/2022 12:15

Matrix: Groundwater

COC Reference: 154493

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.8               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 3.8               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 3.8               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 3.8               | IR            |
| 2 | 1L Amber      | None            | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/03/22 13:33 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/06/22 13:30 | NDK     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 10/04/22 15:00 | TAW     |       |

## Inorganics

Method: SM2320B, Run Date: 10/11/22 11:30, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 304    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:44, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 305    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 1,060  | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 10/03/22 19:00, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | 25     | 3  |     | mg/L  | 2        |      |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:56, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Arsenic   | 0.006  | 0.002 |     | mg/L  | 5        | 7440-38-2 |       |

Method: E200.8, Run Date: 10/05/22 12:03, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Barium    | 0.155        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Iron      | 11.3         | 0.02   |     | mg/L  | 5        | 7439-89-6 |       |
| Lead      | 0.012        | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.06 (continued)  
Sample Tag: MWW01-SEN04\_GW-092822

**Method: E200.8, Run Date: 10/05/22 12:03, Analyst: CCM (continued)**

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Manganese | 0.454        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | Not detected | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

**Method: E200.8, Run Date: 10/05/22 16:00, Analyst: CCM**

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 115    | 1.0  |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 35.9   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

**Method: E245.1, Run Date: 10/03/22 16:22, Analyst: CTV**

| Parameter | Result       | RL     | MDL      | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|----------|-------|----------|-----------|-------|
| Mercury   | Not detected | 0.0002 | 0.000016 | mg/L  | 1        | 7439-97-6 |       |

**Organics - PCBs/Pesticides**

**PCB, Method: E608.3, Run Date: 10/05/22 11:45, Analyst: JANB**

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

**Organics - Volatiles**

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 17:56, Analyst: BML**

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |



# Analytical Laboratory Report

Lab Sample ID: S40841.06 (continued)  
Sample Tag: MWW01-SEN04\_GW-092822

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 17:56, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| cis-1,2-Dichloroethene                | Not detected | 1  |     | ug/L  | 1        | 156-59-2   |       |
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40841

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Submitted:09/28/2022 16:00 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.8 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_



## Merit Laboratories Bottle Preservation Check

Lab Set ID: S40841      Submitted: 09/28/2022 16:00

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Initial Preservation Check: 09/28/2022 17:35 MMC

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S40841.01 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40841.02 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40841.02 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40841.03 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40841.03 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40841.05 | 125ml Plastic HNO3    | <2        |        |          |       |
| S40841.06 | 125ml Plastic HNO3    | <2        |        |          |       |





# Quality Control Report

Report ID: QC-S40841-01  
Generated on 10/12/2022

## Report to

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

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

Phone: 810-225-1909 FAX:

## Report Summary

Lab Sample ID(s): S40841.01-S40841.06  
Project: 30112891.00006 / Racer PNC  
Submitted Date/Time: 09/28/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-7)  
Prep Batch Summary (Pages 8-10)  
Surrogates per Lab Sample (Pages 11-16)  
Surrogates per QC Sample (Pages 17-20)  
Batch QC Results (Pages 21-40)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

# QC Report - Analysis Summary

Lab Sample ID: S40841.01

Sample Tag: TW-MD-03\_GW-092722

Collected Date/Time: 09/27/2022 15:00

Matrix: Groundwater

COC Reference: 154493

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|-----------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b>Inorganics</b>                 |               |                |              |              |      |                    |
| Alkalinity as CaCO3               | SM2320B       | 10/11/22 11:26 | ALK221011-W1 | ALK221011-W1 | No   | BLK/LCS/MS/DUP     |
| Hardness as CaCO3                 | SM2340C       | 10/11/22 13:40 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP     |
| Total Dissolved Solids            | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP        |
| Total Suspended Solids            | SM2540D       | 10/03/22 19:00 | TSS221003    | TSS221003    | No   | BLK/LCS/DUP        |
| <b>Metals</b>                     |               |                |              |              |      |                    |
| Antimony                          | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Arsenic                           | E200.8        | 10/05/22 14:54 | MT4-22-1005B | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Barium                            | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Beryllium                         | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Cadmium                           | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Calcium                           | E200.8        | 10/05/22 15:57 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Chromium                          | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Cobalt                            | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Copper                            | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Iron                              | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Lead                              | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Magnesium                         | E200.8        | 10/05/22 15:57 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Manganese                         | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Mercury                           | E245.1        | 10/03/22 16:15 | HG-22-1003B  | HGD-100322-4 | No   | BLK/LCS/MS/MSD     |
| Nickel                            | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Selenium                          | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Silver                            | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Thallium                          | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Vanadium                          | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Zinc                              | E200.8        | 10/05/22 11:57 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                    |
| PCB                               | E608.3        | 10/03/22 21:05 | E221003      | PA220929W1   | Yes  | BLK/LCS/LCSD       |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                    |
| Volatile Organics - Arcadis       | SW5030C/8260C | 10/05/22 16:39 | 221005A9     | VF221005W2   | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40841.02**

Sample Tag: MWW10-03\_GW-092722

Collected Date/Time: 09/27/2022 16:50

Matrix: Groundwater

COC Reference: 154493

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|-----------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b>Metals</b>                     |               |                |              |              |      |                    |
| Lead, Dissolved                   | E200.8        | 10/05/22 13:54 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD     |
| Lead                              | E200.8        | 10/05/22 13:51 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD     |
| Manganese, Dissolved              | E200.8        | 10/05/22 13:54 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD     |
| Manganese                         | E200.8        | 10/05/22 13:51 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD     |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                    |
| PCB                               | E608.3        | 10/03/22 21:17 | E221003      | PA220929W1   | Yes  | BLK/LCS/LCSD       |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                    |
| Volatile Organics - Arcadis       | SW5030C/8260C | 10/05/22 16:58 | 221005A9     | VF221005W2   | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

Lab Sample ID: S40841.03

Sample Tag: DUP-02\_GW-092722

Collected Date/Time: 09/27/2022 00:01

Matrix: Groundwater

COC Reference: 154493

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|-----------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b>Metals</b>                     |               |                |              |              |      |                    |
| Lead, Dissolved                   | E200.8        | 10/05/22 14:00 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD     |
| Lead                              | E200.8        | 10/05/22 13:57 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD     |
| Manganese, Dissolved              | E200.8        | 10/05/22 14:00 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD     |
| Manganese                         | E200.8        | 10/05/22 13:57 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD     |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                    |
| PCB                               | E608.3        | 10/03/22 21:29 | E221003      | PA220929W1   | Yes  | BLK/LCS/LCSD       |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                    |
| Volatile Organics - Arcadis       | SW5030C/8260C | 10/05/22 17:18 | 221005A9     | VF221005W2   | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

Lab Sample ID: S40841.04

Sample Tag: tripblank\_23

Collected Date/Time: 09/27/2022 00:01

Matrix: Water

COC Reference: 154493

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 12:23 | 221005A9 | VF221005W2 | Yes  | BLK/LCS/LCSD/MS/MS |

# QC Report - Analysis Summary

**Lab Sample ID: S40841.05**

Sample Tag: MWW01-SEN03\_GW-092822

Collected Date/Time: 09/28/2022 10:30

Matrix: Groundwater

COC Reference: 154493

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|------------------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                    |
| Alkalinity as CaCO3                      | SM2320B       | 10/11/22 11:28 | ALK221011-W1 | ALK221011-W1 | No   | BLK/LCS/MS/DUP     |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:42 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP     |
| Total Dissolved Solids                   | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP        |
| Total Suspended Solids                   | SM2540D       | 10/03/22 19:00 | TSS221003    | TSS221003    | No   | BLK/LCS/DUP        |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                    |
| Antimony                                 | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Arsenic                                  | E200.8        | 10/05/22 14:55 | MT4-22-1005B | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Barium                                   | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Beryllium                                | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Cadmium                                  | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Calcium                                  | E200.8        | 10/05/22 15:59 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Chromium                                 | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Cobalt                                   | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Copper                                   | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Iron                                     | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Lead                                     | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Magnesium                                | E200.8        | 10/05/22 15:59 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Manganese                                | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Mercury                                  | E245.1        | 10/03/22 16:19 | HG-22-1003B  | HGD-100322-4 | No   | BLK/LCS/MS/MSD     |
| Nickel                                   | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Selenium                                 | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Silver                                   | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Thallium                                 | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Vanadium                                 | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Zinc                                     | E200.8        | 10/05/22 12:00 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                    |
| PCB                                      | E608.3        | 10/05/22 11:33 | E221005      | PA221004W1   | Yes  | BLK/LCS/LCSD       |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                    |
| 1,4-Dioxane                              | SW8260B - SIM | 10/08/22 00:08 | 221007B9     | VS221007W1   | Yes  | BLK/LCS/LCSD       |
| Volatile Organics - Arcadis              | SW5030C/8260C | 10/05/22 17:37 | 221005A9     | VF221005W2   | Yes  | BLK/LCS/LCSD/MS/MS |



# QC Report - Analysis Summary

**Lab Sample ID: S40841.06**

Sample Tag: MWW01-SEN04\_GW-092822

Collected Date/Time: 09/28/2022 12:15

Matrix: Groundwater

COC Reference: 154493

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|------------------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                    |
| Alkalinity as CaCO3                      | SM2320B       | 10/11/22 11:30 | ALK221011-W1 | ALK221011-W1 | No   | BLK/LCS/MS/DUP     |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:44 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP     |
| Total Dissolved Solids                   | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP        |
| Total Suspended Solids                   | SM2540D       | 10/03/22 19:00 | TSS221003    | TSS221003    | No   | BLK/LCS/DUP        |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                    |
| Antimony                                 | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Arsenic                                  | E200.8        | 10/05/22 14:56 | MT4-22-1005B | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Barium                                   | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Beryllium                                | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Cadmium                                  | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Calcium                                  | E200.8        | 10/05/22 16:00 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Chromium                                 | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Cobalt                                   | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Copper                                   | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Iron                                     | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Lead                                     | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Magnesium                                | E200.8        | 10/05/22 16:00 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Manganese                                | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Mercury                                  | E245.1        | 10/03/22 16:22 | HG-22-1003B  | HGD-100322-4 | No   | BLK/LCS/MS/MSD     |
| Nickel                                   | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Selenium                                 | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Silver                                   | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Thallium                                 | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Vanadium                                 | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Zinc                                     | E200.8        | 10/05/22 12:03 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                    |
| PCB                                      | E608.3        | 10/05/22 11:45 | E221005      | PA221004W1   | Yes  | BLK/LCS/LCSD       |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                    |
| Volatile Organics - Arcadis              | SW5030C/8260C | 10/05/22 17:56 | 221005A9     | VF221005W2   | Yes  | BLK/LCS/LCSD/MS/MS |

# QC Report - Prep Batch Summary

## Inorganics, Prep Batch ID: ALK221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

| Sample ID | Analysis            | Method  | Run Date/Time  | Batch ID     |
|-----------|---------------------|---------|----------------|--------------|
| S40841.01 | Alkalinity as CaCO3 | SM2320B | 10/11/22 11:26 | ALK221011-W1 |
| S40841.05 | Alkalinity as CaCO3 | SM2320B | 10/11/22 11:28 | ALK221011-W1 |
| S40841.06 | Alkalinity as CaCO3 | SM2320B | 10/11/22 11:30 | ALK221011-W1 |

## Inorganics, Prep Batch ID: HRD221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

| Sample ID | Analysis          | Method  | Run Date/Time  | Batch ID     |
|-----------|-------------------|---------|----------------|--------------|
| S40841.01 | Hardness as CaCO3 | SM2340C | 10/11/22 13:40 | HRD221011-W1 |
| S40841.05 | Hardness as CaCO3 | SM2340C | 10/11/22 13:42 | HRD221011-W1 |
| S40841.06 | Hardness as CaCO3 | SM2340C | 10/11/22 13:44 | HRD221011-W1 |

## Inorganics, Prep Batch ID: TDS220930

Surrogates: No, QC Types: BLK/LCS/DUP

| Sample ID | Analysis               | Method  | Run Date/Time  | Batch ID  |
|-----------|------------------------|---------|----------------|-----------|
| S40841.01 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |
| S40841.05 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |
| S40841.06 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |

## Inorganics, Prep Batch ID: TSS221003

Surrogates: No, QC Types: BLK/LCS/DUP

| Sample ID | Analysis               | Method  | Run Date/Time  | Batch ID  |
|-----------|------------------------|---------|----------------|-----------|
| S40841.01 | Total Suspended Solids | SM2540D | 10/03/22 19:00 | TSS221003 |
| S40841.05 | Total Suspended Solids | SM2540D | 10/03/22 19:00 | TSS221003 |
| S40841.06 | Total Suspended Solids | SM2540D | 10/03/22 19:00 | TSS221003 |

## Metals, Prep Batch ID: HGD-100322-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID    |
|-----------|----------|--------|----------------|-------------|
| S40841.01 | Mercury  | E245.1 | 10/03/22 16:15 | HG-22-1003B |
| S40841.05 | Mercury  | E245.1 | 10/03/22 16:19 | HG-22-1003B |
| S40841.06 | Mercury  | E245.1 | 10/03/22 16:22 | HG-22-1003B |

## Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40841.01 | Antimony  | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Arsenic   | E200.8 | 10/05/22 14:54 | MT4-22-1005B |
| S40841.01 | Barium    | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Beryllium | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Cadmium   | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Calcium   | E200.8 | 10/05/22 15:57 | MT4-22-1005C |
| S40841.01 | Chromium  | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Cobalt    | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Copper    | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Iron      | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Lead      | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Magnesium | E200.8 | 10/05/22 15:57 | MT4-22-1005C |
| S40841.01 | Manganese | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Nickel    | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Selenium  | E200.8 | 10/05/22 11:57 | MT4-22-1005A |

# QC Report - Prep Batch Summary

## Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40841.01 | Silver    | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Thallium  | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Vanadium  | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.01 | Zinc      | E200.8 | 10/05/22 11:57 | MT4-22-1005A |
| S40841.05 | Antimony  | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Arsenic   | E200.8 | 10/05/22 14:55 | MT4-22-1005B |
| S40841.05 | Barium    | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Beryllium | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Cadmium   | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Calcium   | E200.8 | 10/05/22 15:59 | MT4-22-1005C |
| S40841.05 | Chromium  | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Cobalt    | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Copper    | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Iron      | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Lead      | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Magnesium | E200.8 | 10/05/22 15:59 | MT4-22-1005C |
| S40841.05 | Manganese | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Nickel    | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Selenium  | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Silver    | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Thallium  | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Vanadium  | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.05 | Zinc      | E200.8 | 10/05/22 12:00 | MT4-22-1005A |
| S40841.06 | Antimony  | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Arsenic   | E200.8 | 10/05/22 14:56 | MT4-22-1005B |
| S40841.06 | Barium    | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Beryllium | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Cadmium   | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Calcium   | E200.8 | 10/05/22 16:00 | MT4-22-1005C |
| S40841.06 | Chromium  | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Cobalt    | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Copper    | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Iron      | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Lead      | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Magnesium | E200.8 | 10/05/22 16:00 | MT4-22-1005C |
| S40841.06 | Manganese | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Nickel    | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Selenium  | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Silver    | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Thallium  | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Vanadium  | E200.8 | 10/05/22 12:03 | MT4-22-1005A |
| S40841.06 | Zinc      | E200.8 | 10/05/22 12:03 | MT4-22-1005A |

## Metals, Prep Batch ID: MTD-100522-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis             | Method | Run Date/Time  | Batch ID     |
|-----------|----------------------|--------|----------------|--------------|
| S40841.02 | Lead, Dissolved      | E200.8 | 10/05/22 13:54 | MT4-22-1005A |
| S40841.02 | Lead                 | E200.8 | 10/05/22 13:51 | MT4-22-1005A |
| S40841.02 | Manganese, Dissolved | E200.8 | 10/05/22 13:54 | MT4-22-1005A |

# QC Report - Prep Batch Summary

## Metals, Prep Batch ID: MTD-100522-3 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis             | Method | Run Date/Time  | Batch ID     |
|-----------|----------------------|--------|----------------|--------------|
| S40841.02 | Manganese            | E200.8 | 10/05/22 13:51 | MT4-22-1005A |
| S40841.03 | Lead, Dissolved      | E200.8 | 10/05/22 14:00 | MT4-22-1005A |
| S40841.03 | Lead                 | E200.8 | 10/05/22 13:57 | MT4-22-1005A |
| S40841.03 | Manganese, Dissolved | E200.8 | 10/05/22 14:00 | MT4-22-1005A |
| S40841.03 | Manganese            | E200.8 | 10/05/22 13:57 | MT4-22-1005A |

## Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S40841.01 | PCB      | E608.3 | 10/03/22 21:05 | E221003  |
| S40841.02 | PCB      | E608.3 | 10/03/22 21:17 | E221003  |
| S40841.03 | PCB      | E608.3 | 10/03/22 21:29 | E221003  |

## Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S40841.05 | PCB      | E608.3 | 10/05/22 11:33 | E221005  |
| S40841.06 | PCB      | E608.3 | 10/05/22 11:45 | E221005  |

## Organics - Volatiles, Prep Batch ID: VF221005W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40841.01 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 16:39 | 221005A9 |
| S40841.02 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 16:58 | 221005A9 |
| S40841.03 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 17:18 | 221005A9 |
| S40841.04 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 12:23 | 221005A9 |
| S40841.05 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 17:37 | 221005A9 |
| S40841.06 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 17:56 | 221005A9 |

## Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis    | Method        | Run Date/Time  | Batch ID |
|-----------|-------------|---------------|----------------|----------|
| S40841.05 | 1,4-Dioxane | SW8260B - SIM | 10/08/22 00:08 | 221007B9 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40841.01**

Sample Tag: TW-MD-03\_GW-092722

Collected Date/Time: 09/27/2022 15:00

Matrix: Groundwater

COC Reference: 154493

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221003, Run Date: 10/03/2022 21:05, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec          | LCL  | UCL   |
|-----------|-------|---------------|------|-------|
| TCX       |       | <b>84.70</b>  | 34.1 | 137.1 |
| DCBP      |       | <b>119.00</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 16:39, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>116.0</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>103.4</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>104.8</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40841.02**

Sample Tag: MWW10-03\_GW-092722

Collected Date/Time: 09/27/2022 16:50

Matrix: Groundwater

COC Reference: 154493

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221003, Run Date: 10/03/2022 21:17, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec          | LCL  | UCL   |
|-----------|-------|---------------|------|-------|
| TCX       |       | <b>88.30</b>  | 34.1 | 137.1 |
| DCBP      |       | <b>109.60</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 16:58, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>110.0</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>114.1</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>104.1</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40841.03**

Sample Tag: DUP-02\_GW-092722

Collected Date/Time: 09/27/2022 00:01

Matrix: Groundwater

COC Reference: 154493

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221003, Run Date: 10/03/2022 21:29, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>74.20</b> | 34.1 | 137.1 |
| DCBP      |       | <b>91.40</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 17:18, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.6</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>105.1</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>103.0</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40841.04

Sample Tag: tripblank\_23

Collected Date/Time: 09/27/2022 00:01

Matrix: Water

COC Reference: 154493

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 12:23, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 100.9 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 100.4 | 72.0 | 125.0 |
| Toluene-D8            |       | 101.7 | 89.0 | 112.0 |



## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40841.05**

Sample Tag: MWW01-SEN03\_GW-092822

Collected Date/Time: 09/28/2022 10:30

Matrix: Groundwater

COC Reference: 154493

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221005, Run Date: 10/05/2022 11:33, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>81.90</b> | 34.1 | 137.1 |
| DCBP      |       | <b>94.10</b> | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 17:37, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>107.2</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>100.7</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>106.9</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40841.06**

Sample Tag: MWW01-SEN04\_GW-092822

Collected Date/Time: 09/28/2022 12:15

Matrix: Groundwater

COC Reference: 154493

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221005, Run Date: 10/05/2022 11:45, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 87.40 | 34.1 | 137.1 |
| DCBP      |       | 64.90 | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005A9, Run Date: 10/05/2022 17:56, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 99.0  | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 95.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.0 | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22093003.sblk-w.01

Run in Batch: A220930, Run Date: 09/30/2022 10:50, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 90.30 | 34.1 | 137.1 |
| DCBP      |       | 91.40 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:15, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec   | LCL  | UCL   |
|-----------|-------|--------|------|-------|
| TCX       |       | 86.80  | 34.1 | 137.1 |
| DCBP      |       | 103.10 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22093005.slcs-w.01d, Parent Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:30, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 83.00 | 34.1 | 137.1 |
| DCBP      |       | 91.40 | 30.0 | 138.6 |

# QC Report - Surrogates per QC Sample

## Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22100503.sblk-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 81.20 | 34.1 | 137.1 |
| DCBP      |       | 75.50 | 30.0 | 138.6 |

### Blank (BLK)

Lab Sample ID: b22100504.sblk-w.01

Run in Batch: B221005, Run Date: 10/05/2022 10:12, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec   | LCL  | UCL   |
|-----------|-------|--------|------|-------|
| TCX       |       | 104.40 | 34.1 | 137.1 |
| DCBP      |       | 96.60  | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:53, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 62.20 | 34.1 | 137.1 |
| DCBP      |       | 66.60 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: b22100511.slcs-w.01

Run in Batch: B221005, Run Date: 10/05/2022 13:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 70.70 | 34.1 | 137.1 |
| DCBP      |       | 78.50 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100505.slcs-w.01d, Parent Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 11:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 64.00 | 34.1 | 137.1 |
| DCBP      |       | 66.80 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: b22100512.slcs-w.01d, Parent Sample ID: b22100511.slcs-w.01

Run in Batch: B221005, Run Date: 10/05/2022 13:28, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 83.20 | 34.1 | 137.1 |
| DCBP      |       | 90.90 | 30.0 | 138.6 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF221005W2

QC Types: BLK/LCS/LCSD/MS/MSD

#### Blank (BLK)

Lab Sample ID: 221005A9.BLKW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 11:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 101.8 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 100.9 | 72.0 | 125.0 |
| Toluene-D8            |       | 101.4 | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:29, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 102.4 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 98.2  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.4 | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005A9.LCSDW05A, Parent Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:49, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 102.2 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 93.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.4 | 89.0 | 112.0 |

#### Matrix Spike (MS)

Lab Sample ID: 221005A9.4078203M, Parent Sample ID: S40782.02

Run in Batch: 221005A9, Run Date: 10/05/2022 10:08, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.6 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 99.3  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.9 | 89.0 | 112.0 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005A9.4078204N, Parent Sample ID: 221005A9.4078203M

Run in Batch: 221005A9, Run Date: 10/05/2022 10:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.3 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 98.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 102.8 | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VS221007W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: ALK221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

#### Blank (BLK)

Lab Sample ID: ALK221011-W1.LRB1

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:00, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | Conc | RDL | Units |
|---------------------|-------|------|-----|-------|
| Alkalinity as CaCO3 |       | ND   | 1   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: ALK221011-W1.LCS1

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:06, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | % Rec | LCL | UCL |
|---------------------|-------|-------|-----|-----|
| Alkalinity as CaCO3 |       | 98    | 90  | 110 |

#### Matrix Spike (MS)

Lab Sample ID: ALK221011-W1.MS1, Parent Sample ID: S40793.02

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:14, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | % Rec | LCL | UCL |
|---------------------|-------|-------|-----|-----|
| Alkalinity as CaCO3 |       | 100   | 80  | 120 |

#### Duplicate (DUP)

Lab Sample ID: ALK221011-W1.DP1, Parent Sample ID: S40793.01

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:10, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 2

| Analyte             | Flags | RPD | RPD CL |
|---------------------|-------|-----|--------|
| Alkalinity as CaCO3 |       | 4   | 15     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: HRD221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

#### Blank (BLK)

Lab Sample ID: HRD221011-W1.LRB1

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:00, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | Conc | RDL | Units |
|-------------------|-------|------|-----|-------|
| Hardness as CaCO3 |       | ND   | 2   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HRD221011-W1.LCS1

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:06, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | % Rec | LCL | UCL |
|-------------------|-------|-------|-----|-----|
| Hardness as CaCO3 |       | 101   | 90  | 110 |

#### Matrix Spike (MS)

Lab Sample ID: HRD221011-W1.MS1, Parent Sample ID: S40775.02

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:14, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | % Rec | LCL | UCL |
|-------------------|-------|-------|-----|-----|
| Hardness as CaCO3 |       | 102   | 80  | 120 |

#### Duplicate (DUP)

Lab Sample ID: HRD221011-W1.DP1, Parent Sample ID: S41042.07

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:10, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 10

| Analyte           | Flags | RPD | RPD CL |
|-------------------|-------|-----|--------|
| Hardness as CaCO3 |       | 1   | 20     |



## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: TDS220930

Surrogates: No, QC Types: BLK/LCS/DUP

#### Blank (BLK)

Lab Sample ID: TDS220930.LRB1

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | Conc | RDL | Units |
|------------------------|-------|------|-----|-------|
| Total Dissolved Solids |       | ND   | 50  | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: TDS220930.LCS1

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 4

| Analyte                | Flags | % Rec | LCL | UCL |
|------------------------|-------|-------|-----|-----|
| Total Dissolved Solids |       | 100.6 | 90  | 110 |

#### Duplicate (DUP)

Lab Sample ID: TDS220930.DP1, Parent Sample ID: S40775.04

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | RPD | RPD CL |
|------------------------|-------|-----|--------|
| Total Dissolved Solids |       | 0.9 | 10     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: TSS221003

Surrogates: No, QC Types: BLK/LCS/DUP

#### Blank (BLK)

Lab Sample ID: TSS221003.LRB1

Run in Batch: TSS221003, Run Date: 10/03/2022 19:00, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte                | Flags | Conc | RDL | Units |
|------------------------|-------|------|-----|-------|
| Total Suspended Solids |       | ND   | 3   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: TSS221003.LCS1

Run in Batch: TSS221003, Run Date: 10/03/2022 19:00, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 10

| Analyte                | Flags | % Rec | LCL  | UCL |
|------------------------|-------|-------|------|-----|
| Total Suspended Solids |       | 92.8  | 78.8 | 113 |

#### Duplicate (DUP)

Lab Sample ID: TSS221003.DP1, Parent Sample ID: S40840.01

Run in Batch: TSS221003, Run Date: 10/03/2022 19:00, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | RPD | RPD CL |
|------------------------|-------|-----|--------|
| Total Suspended Solids |       | 0.0 | 10     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: HGD-100322-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: HG-22-1003B.059.LRB

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 15:49, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL  | Units |
|---------|-------|------|------|-------|
| Mercury |       | ND   | 0.20 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HG-22-1003B.058.LCS

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 15:46, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 93    | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1003B.062.MS, Parent Sample ID: S40825.01

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 15:59, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 93    | 80  | 120 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1003B.076.MS, Parent Sample ID: S40874.03

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 16:45, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 92    | 80  | 120 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1003B.063.MSD, Parent Sample ID: HG-22-1003B.062.MS

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 16:02, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 92    | 80  | 120 | 1   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1003B.077.MSD, Parent Sample ID: HG-22-1003B.076.MS

Run in Batch: HG-22-1003B, Run Date: 10/03/2022 16:48, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 90    | 80  | 120 | 2   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-1005A.021.LRB

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:36, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL    | Units |
|-----------|-------|------|--------|-------|
| Antimony  |       | ND   | 0.001  | mg/L  |
| Barium    |       | ND   | 0.001  | mg/L  |
| Beryllium |       | ND   | 0.0002 | mg/L  |
| Cadmium   |       | ND   | 0.0001 | mg/L  |
| Chromium  |       | ND   | 0.001  | mg/L  |
| Cobalt    |       | ND   | 0.001  | mg/L  |
| Copper    |       | ND   | 0.001  | mg/L  |
| Iron      |       | ND   | 0.004  | mg/L  |
| Lead      |       | ND   | 0.0006 | mg/L  |
| Manganese |       | ND   | 0.001  | mg/L  |
| Nickel    |       | ND   | 0.001  | mg/L  |
| Selenium  |       | ND   | 0.001  | mg/L  |
| Silver    |       | ND   | 0.0001 | mg/L  |
| Thallium  |       | ND   | 0.0004 | mg/L  |
| Vanadium  |       | ND   | 0.001  | mg/L  |
| Zinc      |       | ND   | 0.001  | mg/L  |

#### Blank (BLK)

Lab Sample ID: MT4-22-1005B.017.LRB

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:50, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL    | Units |
|---------|-------|------|--------|-------|
| Arsenic |       | ND   | 0.0004 | mg/L  |

#### Blank (BLK)

Lab Sample ID: MT4-22-1005C.015.LRB

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 15:50, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL  | Units |
|-----------|-------|------|------|-------|
| Calcium   |       | ND   | 0.05 | mg/L  |
| Magnesium |       | ND   | 0.05 | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005A.019.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:33, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 85  | 115 |
| Barium    |       | 99    | 85  | 115 |
| Beryllium |       | 98    | 85  | 115 |
| Cadmium   |       | 100   | 85  | 115 |
| Chromium  |       | 98    | 85  | 115 |
| Cobalt    |       | 99    | 85  | 115 |
| Copper    |       | 100   | 85  | 115 |
| Iron      |       | 107   | 85  | 115 |
| Lead      |       | 102   | 85  | 115 |
| Manganese |       | 98    | 85  | 115 |
| Nickel    |       | 99    | 85  | 115 |
| Selenium  |       | 101   | 85  | 115 |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: MT4-22-1005A.019.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:33, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte  | Flags | % Rec | LCL | UCL |
|----------|-------|-------|-----|-----|
| Silver   |       | 99    | 85  | 115 |
| Thallium |       | 100   | 85  | 115 |
| Vanadium |       | 101   | 85  | 115 |
| Zinc     |       | 97    | 85  | 115 |

### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005B.016.LCS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:49, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 99    | 85  | 115 |

### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005C.014.LCS

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 15:49, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 95    | 85  | 115 |
| Magnesium |       | 98    | 85  | 115 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.042.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:22, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 75  | 125 |
| Barium    |       | 96    | 75  | 125 |
| Beryllium |       | 106   | 75  | 125 |
| Cadmium   |       | 94    | 75  | 125 |
| Chromium  |       | 98    | 75  | 125 |
| Cobalt    |       | 95    | 75  | 125 |
| Copper    |       | 90    | 75  | 125 |
| Iron      |       | 85    | 75  | 125 |
| Lead      |       | 94    | 75  | 125 |
| Manganese |       | 91    | 75  | 125 |
| Nickel    |       | 98    | 75  | 125 |
| Selenium  |       | 104   | 75  | 125 |
| Silver    |       | 91    | 75  | 125 |
| Thallium  |       | 95    | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 97    | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.062.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:58, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 103   | 75  | 125 |
| Barium    |       | 99    | 75  | 125 |
| Beryllium |       | 105   | 75  | 125 |

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike (MS) (continued)

Lab Sample ID: MT4-22-1005A.062.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:58, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Cadmium   |       | 102   | 75  | 125 |
| Chromium  |       | 102   | 75  | 125 |
| Cobalt    |       | 100   | 75  | 125 |
| Copper    |       | 97    | 75  | 125 |
| Iron      |       | 107   | 75  | 125 |
| Lead      |       | 100   | 75  | 125 |
| Manganese |       | 98    | 75  | 125 |
| Nickel    |       | 101   | 75  | 125 |
| Selenium  |       | 107   | 75  | 125 |
| Silver    |       | 93    | 75  | 125 |
| Thallium  |       | 102   | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 104   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.029.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 104   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.041.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:10, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 102   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005C.030.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:03, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 88    | 75  | 125 |
| Magnesium |       | 93    | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005C.045.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:17, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 117   | 75  | 125 |
| Magnesium |       | 103   | 75  | 125 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.043.MSD, Parent Sample ID: MT4-22-1005A.042.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:23, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte  | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|----------|-------|-------|-----|-----|-----|--------|
| Antimony |       | 99    | 75  | 125 | 2   | 20     |
| Barium   |       | 96    | 75  | 125 | 0   | 20     |

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-22-1005A.043.MSD, Parent Sample ID: MT4-22-1005A.042.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:23, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Beryllium |       | 104   | 75  | 125 | 2   | 20     |
| Cadmium   |       | 97    | 75  | 125 | 2   | 20     |
| Chromium  |       | 99    | 75  | 125 | 2   | 20     |
| Cobalt    |       | 99    | 75  | 125 | 4   | 20     |
| Copper    |       | 94    | 75  | 125 | 4   | 20     |
| Iron      |       | 92    | 75  | 125 | 2   | 20     |
| Lead      |       | 94    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 4   | 20     |
| Nickel    |       | 97    | 75  | 125 | 1   | 20     |
| Selenium  |       | 112   | 75  | 125 | 8   | 20     |
| Silver    |       | 91    | 75  | 125 | 1   | 20     |
| Thallium  |       | 96    | 75  | 125 | 1   | 20     |
| Vanadium  |       | 104   | 75  | 125 | 1   | 20     |
| Zinc      |       | 98    | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 100   | 75  | 125 | 2   | 20     |
| Barium    |       | 99    | 75  | 125 | 0   | 20     |
| Beryllium |       | 105   | 75  | 125 | 0   | 20     |
| Cadmium   |       | 100   | 75  | 125 | 1   | 20     |
| Chromium  |       | 100   | 75  | 125 | 2   | 20     |
| Cobalt    |       | 100   | 75  | 125 | 0   | 20     |
| Copper    |       | 98    | 75  | 125 | 1   | 20     |
| Iron      |       | 105   | 75  | 125 | 2   | 20     |
| Lead      |       | 99    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 2   | 20     |
| Nickel    |       | 98    | 75  | 125 | 3   | 20     |
| Selenium  |       | 107   | 75  | 125 | 0   | 20     |
| Silver    |       | 91    | 75  | 125 | 3   | 20     |
| Thallium  |       | 100   | 75  | 125 | 1   | 20     |
| Vanadium  |       | 102   | 75  | 125 | 1   | 20     |
| Zinc      |       | 106   | 75  | 125 | 3   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.030.MSD, Parent Sample ID: MT4-22-1005B.029.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:01, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 104   | 75  | 125 | 1   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.042.MSD, Parent Sample ID: MT4-22-1005B.041.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:11, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 102   | 75  | 125 | 0   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005C.031.MSD, Parent Sample ID: MT4-22-1005C.030.MS

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:04, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Calcium   |       | 81    | 75  | 125 | 1   | 20     |
| Magnesium |       | 96    | 75  | 125 | 1   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005C.046.MSD, Parent Sample ID: MT4-22-1005C.045.MS

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:18, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Calcium   |       | 103   | 75  | 125 | 2   | 20     |
| Magnesium |       | 103   | 75  | 125 | 0   | 20     |



## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-1005A.069.LRB

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:09, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL    | Units |
|-----------|-------|------|--------|-------|
| Lead      |       | ND   | 0.0006 | mg/L  |
| Manganese |       | ND   | 0.001  | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005A.067.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:06, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Lead      |       | 100   | 85  | 115 |
| Manganese |       | 101   | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.087.MS, Parent Sample ID: S40793.04

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:40, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Lead      |       | 100   | 75  | 125 |
| Manganese |       | 99    | 75  | 125 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.107.MS, Parent Sample ID: S40972.01

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 14:11, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Lead      |       | 95    | 75  | 125 |
| Manganese |       | 98    | 75  | 125 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.088.MSD, Parent Sample ID: MT4-22-1005A.087.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:41, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Lead      |       | 100   | 75  | 125 | 1   | 20     |
| Manganese |       | 99    | 75  | 125 | 0   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.108.MSD, Parent Sample ID: MT4-22-1005A.107.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 14:12, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Lead      |       | 92    | 75  | 125 | 3   | 20     |
| Manganese |       | 96    | 75  | 125 | 1   | 20     |

## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA220929W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22093003.sblk-w.01

Run in Batch: A220930, Run Date: 09/30/2022 10:50, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:15, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 88.84 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22093005.slcs-w.01d, Parent Sample ID: a22093004.slcs-w.01

Run in Batch: A220930, Run Date: 09/30/2022 11:30, Prep Date: 09/29/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------|-------|-------|------|-------|-----|--------|
| PCB-1016/1260 |       | 86.44 | 50.0 | 125.0 | 2.7 | 20.0   |

## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22100503.sblk-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:53, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 70.22 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100505.slcs-w.01d, Parent Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 11:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------|-------|-------|------|-------|------|--------|
| PCB-1016/1260 |       | 79.24 | 50.0 | 125.0 | 12.1 | 20.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Blank (BLK)

Lab Sample ID: 221005A9.BLKW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 11:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

**Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)**

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

**Blank (BLK) (continued)**

Lab Sample ID: 221005A9.BLKW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 11:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

**Laboratory Control Sample (LCS)**

Lab Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:29, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 91.2  | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 94.6  | 44.0 | 134.4 |
| Benzene                        |       | 100.3 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 98.2  | 80.4 | 128.2 |
| Bromoform                      |       | 95.2  | 69.4 | 128.0 |
| Bromomethane                   |       | 103.3 | 56.8 | 151.3 |
| Carbon disulfide               |       | 93.6  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 93.7  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 96.3  | 79.2 | 122.7 |
| Chloroethane                   |       | 103.1 | 53.4 | 149.4 |
| Chloroform                     |       | 97.9  | 78.4 | 124.0 |
| Chloromethane                  |       | 110.8 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 103.2 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 97.5  | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 94.2  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 101.7 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 94.9  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 96.4  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 99.0  | 76.6 | 122.1 |
| Dibromochloromethane           |       | 97.8  | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 99.1  | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 98.4  | 73.6 | 129.3 |
| Ethylbenzene                   |       | 97.1  | 79.5 | 129.1 |
| 2-Hexanone                     |       | 100.2 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 103.8 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 104.1 | 73.2 | 122.4 |
| Methylene chloride             |       | 102.4 | 73.3 | 121.1 |
| Styrene                        |       | 97.3  | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 94.1  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 100.6 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 102.1 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 94.5  | 74.5 | 124.5 |
| Toluene                        |       | 98.0  | 79.8 | 124.5 |
| Trichloroethene                |       | 98.0  | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 104.5 | 59.7 | 151.8 |
| Vinyl chloride                 |       | 113.1 | 43.5 | 149.1 |
| o-Xylene                       |       | 96.9  | 80.2 | 131.0 |
| p,m-Xylene                     |       | 96.3  | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:29, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 96.3  | 74.4 | 121.5 |
| Cyclohexane                           |       | 91.8  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 99.5  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 94.9  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 101.6 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 98.5  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 96.3  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 100.4 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 98.9  | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 102.3 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 100.7 | 74.0 | 131.3 |

## Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005A9.LCSDW05A, Parent Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:49, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------------------------|-------|-------|------|-------|-----|--------|
| Acetone                        |       | 88.2  | 29.9 | 161.5 | 3.4 | 30.0   |
| 2-Butanone (MEK)               |       | 92.4  | 44.0 | 134.4 | 2.4 | 30.0   |
| Benzene                        |       | 100.9 | 79.9 | 124.9 | 0.6 | 30.0   |
| Bromodichloromethane           |       | 97.8  | 80.4 | 128.2 | 0.4 | 30.0   |
| Bromoform                      |       | 93.8  | 69.4 | 128.0 | 1.5 | 30.0   |
| Bromomethane                   |       | 103.4 | 56.8 | 151.3 | 0.1 | 30.0   |
| Carbon disulfide               |       | 95.2  | 63.8 | 137.4 | 1.8 | 30.0   |
| Carbon tetrachloride           |       | 94.9  | 72.6 | 133.0 | 1.3 | 30.0   |
| Chlorobenzene                  |       | 99.0  | 79.2 | 122.7 | 2.7 | 30.0   |
| Chloroethane                   |       | 102.3 | 53.4 | 149.4 | 0.8 | 30.0   |
| Chloroform                     |       | 98.3  | 78.4 | 124.0 | 0.4 | 30.0   |
| Chloromethane                  |       | 110.7 | 23.8 | 166.5 | 0.0 | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 103.8 | 21.2 | 189.4 | 0.6 | 30.0   |
| 1,2-Dichlorobenzene            |       | 100.4 | 10.0 | 166.2 | 2.9 | 30.0   |
| 1,2-Dichloroethane             |       | 92.8  | 76.0 | 126.3 | 1.5 | 30.0   |
| 1,2-Dichloropropane            |       | 101.2 | 78.6 | 126.4 | 0.5 | 30.0   |
| 1,3-Dichlorobenzene            |       | 98.6  | 77.0 | 131.3 | 3.8 | 30.0   |
| 1,4-Dichlorobenzene            |       | 97.6  | 20.7 | 137.7 | 1.3 | 30.0   |
| cis-1,2-Dichloroethene         |       | 99.5  | 76.6 | 122.1 | 0.5 | 30.0   |
| Dibromochloromethane           |       | 97.6  | 74.6 | 127.2 | 0.1 | 30.0   |
| Dichlorodifluoromethane        |       | 99.0  | 10.0 | 222.8 | 0.0 | 30.0   |
| trans-1,2-Dichloroethene       |       | 99.4  | 73.6 | 129.3 | 1.0 | 30.0   |
| Ethylbenzene                   |       | 100.0 | 79.5 | 129.1 | 3.0 | 30.0   |
| 2-Hexanone                     |       | 98.8  | 55.4 | 136.9 | 1.4 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 101.6 | 71.6 | 125.2 | 2.2 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 101.0 | 73.2 | 122.4 | 3.0 | 30.0   |
| Methylene chloride             |       | 102.1 | 73.3 | 121.1 | 0.3 | 30.0   |
| Styrene                        |       | 98.6  | 69.5 | 126.7 | 1.3 | 30.0   |
| 1,1,1-Trichloroethane          |       | 95.5  | 79.4 | 130.9 | 1.5 | 30.0   |
| 1,1,2-Trichloroethane          |       | 98.8  | 78.7 | 123.1 | 1.8 | 30.0   |

**Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)**

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

**Laboratory Control Sample Duplicate (LCSD) (continued)**

Lab Sample ID: 221005A9.LCSDW05A, Parent Sample ID: 221005A9.LCSW05A

Run in Batch: 221005A9, Run Date: 10/05/2022 09:49, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 101.9 | 27.4 | 143.4 | 0.2 | 30.0   |
| Tetrachloroethene                     |       | 96.4  | 74.5 | 124.5 | 2.0 | 30.0   |
| Toluene                               |       | 98.5  | 79.8 | 124.5 | 0.5 | 30.0   |
| Trichloroethene                       |       | 98.7  | 79.7 | 124.2 | 0.8 | 30.0   |
| Trichlorofluoromethane                |       | 106.2 | 59.7 | 151.8 | 1.6 | 30.0   |
| Vinyl chloride                        |       | 115.3 | 43.5 | 149.1 | 1.9 | 30.0   |
| o-Xylene                              |       | 99.4  | 80.2 | 131.0 | 2.6 | 30.0   |
| p,m-Xylene                            |       | 98.4  | 79.4 | 132.2 | 2.2 | 30.0   |
| Isopropylbenzene                      |       | 99.0  | 74.4 | 121.5 | 2.8 | 30.0   |
| Cyclohexane                           |       | 92.7  | 10.0 | 169.1 | 1.1 | 30.0   |
| 1,1-Dichloroethane                    |       | 100.5 | 71.5 | 126.2 | 1.0 | 30.0   |
| 1,1-Dichloroethene                    |       | 96.1  | 69.6 | 139.4 | 1.3 | 30.0   |
| Methyl Acetate                        |       | 100.8 | 64.7 | 125.4 | 0.7 | 30.0   |
| Methyl cyclohexane                    |       | 99.9  | 76.6 | 131.3 | 1.4 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 96.1  | 75.1 | 135.9 | 0.2 | 30.0   |
| 1,2-Dibromoethane                     |       | 100.4 | 70.3 | 133.7 | 0.0 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 98.7  | 79.8 | 126.3 | 0.3 | 30.0   |
| cis-1,3-Dichloropropene               |       | 101.6 | 79.8 | 129.9 | 0.7 | 30.0   |
| trans-1,3-Dichloropropene             |       | 101.2 | 74.0 | 131.3 | 0.5 | 30.0   |

**Matrix Spike (MS)**

Lab Sample ID: 221005A9.4078203M, Parent Sample ID: S40782.02

Run in Batch: 221005A9, Run Date: 10/05/2022 10:08, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   |
|-----------------------------|-------|-------|------|-------|
| Acetone                     |       | 91.7  | 29.9 | 161.5 |
| 2-Butanone (MEK)            |       | 98.0  | 44.0 | 134.4 |
| Benzene                     |       | 106.9 | 79.9 | 124.9 |
| Bromodichloromethane        |       | 104.5 | 80.4 | 128.2 |
| Bromoform                   |       | 100.5 | 69.4 | 128.0 |
| Bromomethane                |       | 112.6 | 56.8 | 151.3 |
| Carbon disulfide            |       | 102.0 | 63.8 | 137.4 |
| Carbon tetrachloride        |       | 98.1  | 72.6 | 133.0 |
| Chlorobenzene               |       | 103.0 | 79.2 | 122.7 |
| Chloroethane                |       | 111.1 | 53.4 | 149.4 |
| Chloroform                  |       | 106.3 | 78.4 | 124.0 |
| Chloromethane               |       | 124.0 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane |       | 104.5 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene         |       | 100.5 | 10.0 | 166.2 |
| 1,2-Dichloroethane          |       | 98.7  | 76.0 | 126.3 |
| 1,2-Dichloropropane         |       | 108.3 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene         |       | 98.1  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene         |       | 99.4  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene      |       | 106.9 | 76.6 | 122.1 |
| Dibromochloromethane        |       | 103.1 | 74.6 | 127.2 |
| Dichlorodifluoromethane     |       | 105.2 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene    |       | 105.4 | 73.6 | 129.3 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Matrix Spike (MS) (continued)

Lab Sample ID: 221005A9.4078203M, Parent Sample ID: S40782.02

Run in Batch: 221005A9, Run Date: 10/05/2022 10:08, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Ethylbenzene                          |       | 102.5 | 79.5 | 129.1 |
| 2-Hexanone                            |       | 109.4 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)           |       | 109.5 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE)        |       | 110.9 | 73.2 | 122.4 |
| Methylene chloride                    |       | 110.3 | 73.3 | 121.1 |
| Styrene                               |       | 102.2 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane                 |       | 100.9 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane                 |       | 106.9 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene                |       | 102.7 | 27.4 | 143.4 |
| Tetrachloroethene                     |       | 99.8  | 74.5 | 124.5 |
| Toluene                               |       | 104.7 | 79.8 | 124.5 |
| Trichloroethene                       |       | 103.6 | 79.7 | 124.2 |
| Trichlorofluoromethane                |       | 111.3 | 59.7 | 151.8 |
| Vinyl chloride                        |       | 123.2 | 43.5 | 149.1 |
| o-Xylene                              |       | 103.1 | 80.2 | 131.0 |
| p,m-Xylene                            |       | 100.5 | 79.4 | 132.2 |
| Isopropylbenzene                      |       | 100.0 | 74.4 | 121.5 |
| Cyclohexane                           |       | 98.2  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 107.2 | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 100.9 | 69.6 | 139.4 |
| Methyl Acetate                        |       | 96.7  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 99.3  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 100.7 | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 105.9 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 102.3 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 108.9 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 107.9 | 74.0 | 131.3 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005A9.4078204N, Parent Sample ID: 221005A9.4078203M

Run in Batch: 221005A9, Run Date: 10/05/2022 10:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-----------------------------|-------|-------|------|-------|-----|--------|
| Acetone                     |       | 98.3  | 29.9 | 161.5 | 6.5 | 30.0   |
| 2-Butanone (MEK)            |       | 106.9 | 44.0 | 134.4 | 8.7 | 30.0   |
| Benzene                     |       | 104.0 | 79.9 | 124.9 | 2.7 | 30.0   |
| Bromodichloromethane        |       | 102.6 | 80.4 | 128.2 | 1.9 | 30.0   |
| Bromoform                   |       | 100.1 | 69.4 | 128.0 | 0.4 | 30.0   |
| Bromomethane                |       | 108.4 | 56.8 | 151.3 | 3.8 | 30.0   |
| Carbon disulfide            |       | 99.1  | 63.8 | 137.4 | 2.9 | 30.0   |
| Carbon tetrachloride        |       | 94.2  | 72.6 | 133.0 | 4.0 | 30.0   |
| Chlorobenzene               |       | 99.3  | 79.2 | 122.7 | 3.7 | 30.0   |
| Chloroethane                |       | 107.2 | 53.4 | 149.4 | 3.6 | 30.0   |
| Chloroform                  |       | 102.6 | 78.4 | 124.0 | 3.6 | 30.0   |
| Chloromethane               |       | 119.0 | 23.8 | 166.5 | 4.1 | 30.0   |
| 1,2-Dibromo-3-chloropropane |       | 108.9 | 21.2 | 189.4 | 4.1 | 30.0   |
| 1,2-Dichlorobenzene         |       | 99.5  | 10.0 | 166.2 | 1.0 | 30.0   |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 221005A9.4078204N, Parent Sample ID: 221005A9.4078203M

Run in Batch: 221005A9, Run Date: 10/05/2022 10:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2-Dichloroethane                    |       | 97.3  | 76.0 | 126.3 | 1.5 | 30.0   |
| 1,2-Dichloropropane                   |       | 104.6 | 78.6 | 126.4 | 3.4 | 30.0   |
| 1,3-Dichlorobenzene                   |       | 98.6  | 77.0 | 131.3 | 0.5 | 30.0   |
| 1,4-Dichlorobenzene                   |       | 97.6  | 20.7 | 137.7 | 1.8 | 30.0   |
| cis-1,2-Dichloroethene                |       | 103.6 | 76.6 | 122.1 | 3.2 | 30.0   |
| Dibromochloromethane                  |       | 101.4 | 74.6 | 127.2 | 1.6 | 30.0   |
| Dichlorodifluoromethane               |       | 98.7  | 10.0 | 222.8 | 6.4 | 30.0   |
| trans-1,2-Dichloroethene              |       | 102.0 | 73.6 | 129.3 | 3.3 | 30.0   |
| Ethylbenzene                          |       | 99.7  | 79.5 | 129.1 | 2.8 | 30.0   |
| 2-Hexanone                            |       | 112.9 | 55.4 | 136.9 | 3.2 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)           |       | 116.2 | 71.6 | 125.2 | 6.0 | 30.0   |
| tert-Methyl butyl ether (MTBE)        |       | 109.9 | 73.2 | 122.4 | 0.9 | 30.0   |
| Methylene chloride                    |       | 108.0 | 73.3 | 121.1 | 2.1 | 30.0   |
| Styrene                               |       | 100.4 | 69.5 | 126.7 | 1.8 | 30.0   |
| 1,1,1-Trichloroethane                 |       | 97.4  | 79.4 | 130.9 | 3.6 | 30.0   |
| 1,1,2-Trichloroethane                 |       | 104.9 | 78.7 | 123.1 | 1.9 | 30.0   |
| 1,2,4-Trichlorobenzene                |       | 103.2 | 27.4 | 143.4 | 0.5 | 30.0   |
| Tetrachloroethene                     |       | 96.8  | 74.5 | 124.5 | 3.0 | 30.0   |
| Toluene                               |       | 100.9 | 79.8 | 124.5 | 3.6 | 30.0   |
| Trichloroethene                       |       | 100.9 | 79.7 | 124.2 | 2.6 | 30.0   |
| Trichlorofluoromethane                |       | 107.7 | 59.7 | 151.8 | 3.3 | 30.0   |
| Vinyl chloride                        |       | 117.3 | 43.5 | 149.1 | 4.9 | 30.0   |
| o-Xylene                              |       | 100.0 | 80.2 | 131.0 | 3.1 | 30.0   |
| p,m-Xylene                            |       | 98.1  | 79.4 | 132.2 | 2.4 | 30.0   |
| Isopropylbenzene                      |       | 97.1  | 74.4 | 121.5 | 3.0 | 30.0   |
| Cyclohexane                           |       | 94.0  | 10.0 | 169.1 | 4.3 | 30.0   |
| 1,1-Dichloroethane                    |       | 104.7 | 71.5 | 126.2 | 2.4 | 30.0   |
| 1,1-Dichloroethene                    |       | 97.4  | 69.6 | 139.4 | 3.5 | 30.0   |
| Methyl Acetate                        |       | 98.8  | 64.7 | 125.4 | 2.1 | 30.0   |
| Methyl cyclohexane                    |       | 97.0  | 76.6 | 131.3 | 2.3 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 96.8  | 75.1 | 135.9 | 3.9 | 30.0   |
| 1,2-Dibromoethane                     |       | 104.6 | 70.3 | 133.7 | 1.2 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 104.0 | 79.8 | 126.3 | 1.6 | 30.0   |
| cis-1,3-Dichloropropene               |       | 106.1 | 79.8 | 129.9 | 2.6 | 30.0   |
| trans-1,3-Dichloropropene             |       | 106.7 | 74.0 | 131.3 | 1.2 | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | Conc | RDL  | Units |
|-------------|-------|------|------|-------|
| 1,4-Dioxane | *     | 0.33 | 0.02 | ug/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   |
|-------------|-------|-------|------|-------|
| 1,4-Dioxane |       | 90.5  | 70.0 | 130.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-------------|-------|-------|------|-------|-----|--------|
| 1,4-Dioxane |       | 90.2  | 70.0 | 130.0 | 0.4 | 30.0   |





# Analytical Laboratory Report

Report ID: S40908.01(01)  
Generated on 10/06/2022

## 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, Ian Drost

## 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): S40908.01-S40908.09  
Project: Racer PNC / 30112891.00006  
Collected Date(s): 09/28/2022 - 09/29/2022  
Submitted Date/Time: 09/29/2022 16:00  
Sampled by: Christina Weaver  
P.O. #: 30112891.00006

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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 (9 samples)

| Sample ID | Sample Tag             | Matrix      | Collected Date/Time |
|-----------|------------------------|-------------|---------------------|
| S40908.01 | MWM16-02_GW-092822     | Groundwater | 09/28/22 16:05      |
| S40908.02 | MWM16-02_GW-092822 MS  | Groundwater | 09/28/22 16:05      |
| S40908.03 | MWM16-02_GW-092822 MSD | Groundwater | 09/28/22 16:05      |
| S40908.04 | Trip Blank_01          | Water       | 09/28/22 00:01      |
| S40908.05 | MWM16-30_GW-092922     | Groundwater | 09/29/22 09:18      |
| S40908.06 | MWM31-02_GW-092922     | Groundwater | 09/29/22 10:44      |
| S40908.07 | MWM16-37_GW-092922     | Groundwater | 09/29/22 11:34      |
| S40908.08 | Dup-04_GW-092922       | Groundwater | 09/29/22 00:01      |
| S40908.09 | Dup-05_GW-092922       | Groundwater | 09/29/22 00:01      |





# Analytical Laboratory Report

Lab Sample ID: S40908.01

Sample Tag: MWM16-02\_GW-092822

Collected Date/Time: 09/28/2022 16:05

Matrix: Groundwater

COC Reference: 154487

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.1               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 01:38, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40908.01 (continued)  
Sample Tag: MWM16-02\_GW-092822

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 01:38, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40908.02

Sample Tag: MWM16-02\_GW-092822 MS

Collected Date/Time: 09/28/2022 16:05

Matrix: Groundwater

COC Reference: 154487

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.1               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 22:06, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   | 1     |
| 2-Butanone (MEK)               | 47           | 25 |     | ug/L  | 1        | 78-93-3   | 1     |
| Benzene                        | 49           | 1  |     | ug/L  | 1        | 71-43-2   | 1     |
| Bromodichloromethane           | 54           | 1  |     | ug/L  | 1        | 75-27-4   | 1     |
| Bromoform                      | 48           | 1  |     | ug/L  | 1        | 75-25-2   | 1     |
| Bromomethane                   | 65           | 5  |     | ug/L  | 1        | 74-83-9   | 1     |
| Carbon disulfide               | 46           | 5  |     | ug/L  | 1        | 75-15-0   | 1     |
| Carbon tetrachloride           | 48           | 1  |     | ug/L  | 1        | 56-23-5   | 1     |
| Chlorobenzene                  | 48           | 1  |     | ug/L  | 1        | 108-90-7  | 1     |
| Chloroethane                   | 66           | 5  |     | ug/L  | 1        | 75-00-3   | 1     |
| Chloroform                     | 50           | 1  |     | ug/L  | 1        | 67-66-3   | 1     |
| Chloromethane                  | 71           | 5  |     | ug/L  | 1        | 74-87-3   | 1     |
| 1,2-Dibromo-3-chloropropane    | 49           | 5  |     | ug/L  | 1        | 96-12-8   | 1     |
| 1,2-Dichlorobenzene            | 48           | 1  |     | ug/L  | 1        | 95-50-1   | 1     |
| 1,2-Dichloroethane             | 49           | 1  |     | ug/L  | 1        | 107-06-2  | 1     |
| 1,2-Dichloropropane            | 52           | 1  |     | ug/L  | 1        | 78-87-5   | 1     |
| 1,3-Dichlorobenzene            | 48           | 1  |     | ug/L  | 1        | 541-73-1  | 1     |
| 1,4-Dichlorobenzene            | 46           | 1  |     | ug/L  | 1        | 106-46-7  | 1     |
| cis-1,2-Dichloroethene         | 50           | 1  |     | ug/L  | 1        | 156-59-2  | 1     |
| Dibromochloromethane           | 42           | 5  |     | ug/L  | 1        | 124-48-1  | 1     |
| Dichlorodifluoromethane        | 53           | 5  |     | ug/L  | 1        | 75-71-8   | 1     |
| trans-1,2-Dichloroethene       | 48           | 1  |     | ug/L  | 1        | 156-60-5  | 1     |
| Ethylbenzene                   | 42           | 1  |     | ug/L  | 1        | 100-41-4  | 1     |
| 2-Hexanone                     | 55           | 50 |     | ug/L  | 1        | 591-78-6  | 1     |
| 4-Methyl-2-pentanone (MIBK)    | 55           | 50 |     | ug/L  | 1        | 108-10-1  | 1     |
| tert-Methyl butyl ether (MTBE) | 52           | 5  |     | ug/L  | 1        | 1634-04-4 | 1     |
| Methylene chloride             | 51           | 5  |     | ug/L  | 1        | 75-09-2   | 1     |
| Styrene                        | 40           | 1  |     | ug/L  | 1        | 100-42-5  | 1     |
| 1,1,1-Trichloroethane          | 49           | 1  |     | ug/L  | 1        | 71-55-6   | 1     |
| 1,1,2-Trichloroethane          | 60           | 1  |     | ug/L  | 1        | 79-00-5   | 1     |
| 1,2,4-Trichlorobenzene         | 46           | 5  |     | ug/L  | 1        | 120-82-1  | 1     |
| Tetrachloroethene              | 52           | 1  |     | ug/L  | 1        | 127-18-4  | 1     |
| Toluene                        | 67           | 1  |     | ug/L  | 1        | 108-88-3  | 1     |
| Trichloroethene                | 49           | 1  |     | ug/L  | 1        | 79-01-6   | 1     |
| Trichlorofluoromethane         | 63           | 1  |     | ug/L  | 1        | 75-69-4   | 1     |
| Vinyl chloride                 | 68           | 1  |     | ug/L  | 1        | 75-01-4   | 1     |

1-Spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S40908.02 (continued)  
Sample Tag: MWM16-02\_GW-092822 MS

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 22:06, Analyst: BML (continued)**

| Parameter                             | Result | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------|----|-----|-------|----------|------------|-------|
| o-Xylene                              | 43     | 1  |     | ug/L  | 1        | 95-47-6    | 1     |
| p,m-Xylene*                           | 80     | 2  |     | ug/L  | 1        |            | 1     |
| Isopropylbenzene                      | 48     | 1  |     | ug/L  | 1        | 98-82-8    | 1     |
| Cyclohexane                           | 44     | 1  |     | ug/L  | 1        | 110-82-7   | 1     |
| 1,1-Dichloroethane                    | 50     | 1  |     | ug/L  | 1        | 75-34-3    | 1     |
| 1,1-Dichloroethene                    | 47     | 1  |     | ug/L  | 1        | 75-35-4    | 1     |
| Methyl Acetate                        | 40     | 10 |     | ug/L  | 1        | 79-20-9    | 1     |
| Methyl cyclohexane                    | 47     | 1  |     | ug/L  | 1        | 108-87-2   | 1     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 45     | 1  |     | ug/L  | 1        | 76-13-1    | 1     |
| 1,2-Dibromoethane                     | 42     | 1  |     | ug/L  | 1        | 106-93-4   | 1     |
| 1,1,2,2-Tetrachloroethane             | 50     | 1  |     | ug/L  | 1        | 79-34-5    | 1     |
| cis-1,3-Dichloropropene               | 52     | 1  |     | ug/L  | 1        | 10061-01-5 | 1     |
| trans-1,3-Dichloropropene             | 57     | 1  |     | ug/L  | 1        | 10061-02-6 | 1     |

1-Spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S40908.03

Sample Tag: MWM16-02\_GW-092822 MSD

Collected Date/Time: 09/28/2022 16:05

Matrix: Groundwater

COC Reference: 154487

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.1               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 22:25, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   | 1     |
| 2-Butanone (MEK)               | 48           | 25 |     | ug/L  | 1        | 78-93-3   | 1     |
| Benzene                        | 52           | 1  |     | ug/L  | 1        | 71-43-2   | 1     |
| Bromodichloromethane           | 50           | 1  |     | ug/L  | 1        | 75-27-4   | 1     |
| Bromoform                      | 43           | 1  |     | ug/L  | 1        | 75-25-2   | 1     |
| Bromomethane                   | 51           | 5  |     | ug/L  | 1        | 74-83-9   | 1     |
| Carbon disulfide               | 49           | 5  |     | ug/L  | 1        | 75-15-0   | 1     |
| Carbon tetrachloride           | 46           | 1  |     | ug/L  | 1        | 56-23-5   | 1     |
| Chlorobenzene                  | 50           | 1  |     | ug/L  | 1        | 108-90-7  | 1     |
| Chloroethane                   | 51           | 5  |     | ug/L  | 1        | 75-00-3   | 1     |
| Chloroform                     | 50           | 1  |     | ug/L  | 1        | 67-66-3   | 1     |
| Chloromethane                  | 51           | 5  |     | ug/L  | 1        | 74-87-3   | 1     |
| 1,2-Dibromo-3-chloropropane    | 50           | 5  |     | ug/L  | 1        | 96-12-8   | 1     |
| 1,2-Dichlorobenzene            | 51           | 1  |     | ug/L  | 1        | 95-50-1   | 1     |
| 1,2-Dichloroethane             | 45           | 1  |     | ug/L  | 1        | 107-06-2  | 1     |
| 1,2-Dichloropropane            | 52           | 1  |     | ug/L  | 1        | 78-87-5   | 1     |
| 1,3-Dichlorobenzene            | 48           | 1  |     | ug/L  | 1        | 541-73-1  | 1     |
| 1,4-Dichlorobenzene            | 50           | 1  |     | ug/L  | 1        | 106-46-7  | 1     |
| cis-1,2-Dichloroethene         | 51           | 1  |     | ug/L  | 1        | 156-59-2  | 1     |
| Dibromochloromethane           | 50           | 5  |     | ug/L  | 1        | 124-48-1  | 1     |
| Dichlorodifluoromethane        | 42           | 5  |     | ug/L  | 1        | 75-71-8   | 1     |
| trans-1,2-Dichloroethene       | 50           | 1  |     | ug/L  | 1        | 156-60-5  | 1     |
| Ethylbenzene                   | 49           | 1  |     | ug/L  | 1        | 100-41-4  | 1     |
| 2-Hexanone                     | 51           | 50 |     | ug/L  | 1        | 591-78-6  | 1     |
| 4-Methyl-2-pentanone (MIBK)    | 52           | 50 |     | ug/L  | 1        | 108-10-1  | 1     |
| tert-Methyl butyl ether (MTBE) | 52           | 5  |     | ug/L  | 1        | 1634-04-4 | 1     |
| Methylene chloride             | 53           | 5  |     | ug/L  | 1        | 75-09-2   | 1     |
| Styrene                        | 43           | 1  |     | ug/L  | 1        | 100-42-5  | 1     |
| 1,1,1-Trichloroethane          | 48           | 1  |     | ug/L  | 1        | 71-55-6   | 1     |
| 1,1,2-Trichloroethane          | 51           | 1  |     | ug/L  | 1        | 79-00-5   | 1     |
| 1,2,4-Trichlorobenzene         | 47           | 5  |     | ug/L  | 1        | 120-82-1  | 1     |
| Tetrachloroethene              | 47           | 1  |     | ug/L  | 1        | 127-18-4  | 1     |
| Toluene                        | 50           | 1  |     | ug/L  | 1        | 108-88-3  | 1     |
| Trichloroethene                | 50           | 1  |     | ug/L  | 1        | 79-01-6   | 1     |
| Trichlorofluoromethane         | 50           | 1  |     | ug/L  | 1        | 75-69-4   | 1     |
| Vinyl chloride                 | 56           | 1  |     | ug/L  | 1        | 75-01-4   | 1     |

1-Spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S40908.03 (continued)  
Sample Tag: MWM16-02\_GW-092822 MSD

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 22:25, Analyst: BML (continued)**

| Parameter                             | Result | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------|----|-----|-------|----------|------------|-------|
| o-Xylene                              | 45     | 1  |     | ug/L  | 1        | 95-47-6    | 1     |
| p,m-Xylene*                           | 97     | 2  |     | ug/L  | 1        |            | 1     |
| Isopropylbenzene                      | 42     | 1  |     | ug/L  | 1        | 98-82-8    | 1     |
| Cyclohexane                           | 45     | 1  |     | ug/L  | 1        | 110-82-7   | 1     |
| 1,1-Dichloroethane                    | 51     | 1  |     | ug/L  | 1        | 75-34-3    | 1     |
| 1,1-Dichloroethene                    | 47     | 1  |     | ug/L  | 1        | 75-35-4    | 1     |
| Methyl Acetate                        | 40     | 10 |     | ug/L  | 1        | 79-20-9    | 1     |
| Methyl cyclohexane                    | 48     | 1  |     | ug/L  | 1        | 108-87-2   | 1     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 46     | 1  |     | ug/L  | 1        | 76-13-1    | 1     |
| 1,2-Dibromoethane                     | 51     | 1  |     | ug/L  | 1        | 106-93-4   | 1     |
| 1,1,2,2-Tetrachloroethane             | 42     | 1  |     | ug/L  | 1        | 79-34-5    | 1     |
| cis-1,3-Dichloropropene               | 51     | 1  |     | ug/L  | 1        | 10061-01-5 | 1     |
| trans-1,3-Dichloropropene             | 50     | 1  |     | ug/L  | 1        | 10061-02-6 | 1     |

1-Spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S40908.04

Sample Tag: Trip Blank\_01

Collected Date/Time: 09/28/2022 00:01

Matrix: Water

COC Reference: 154487

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 3.1               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 00:40, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40908.04 (continued)

Sample Tag: Trip Blank\_01

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 00:40, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |





# Analytical Laboratory Report

Lab Sample ID: S40908.05

Sample Tag: MWM16-30\_GW-092922

Collected Date/Time: 09/29/2022 09:18

Matrix: Groundwater

COC Reference: 154487

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.1               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 04:33, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | 6            | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | 11           | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40908.05 (continued)

Sample Tag: MWM16-30\_GW-092922

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 04:33, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40908.06

Sample Tag: MWM31-02\_GW-092922

Collected Date/Time: 09/29/2022 10:44

Matrix: Groundwater

COC Reference: 154487

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.1               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 04:52, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40908.06 (continued)

Sample Tag: MWM31-02\_GW-092922

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 04:52, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40908.07

Sample Tag: MWM16-37\_GW-092922

Collected Date/Time: 09/29/2022 11:34

Matrix: Groundwater

COC Reference: 154487

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.1               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 05:11, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | 2            | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40908.07 (continued)

Sample Tag: MWM16-37\_GW-092922

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 05:11, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40908.08

Sample Tag: Dup-04\_GW-092922

Collected Date/Time: 09/29/2022 00:01

Matrix: Groundwater

COC Reference: 154487

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.1               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 05:31, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | 6            | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | 12           | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40908.08 (continued)

Sample Tag: Dup-04\_GW-092922

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 05:31, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |





# Analytical Laboratory Report

Lab Sample ID: S40908.09

Sample Tag: Dup-05\_GW-092922

Collected Date/Time: 09/29/2022 00:01

Matrix: Groundwater

COC Reference: 154487

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.1               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 05:51, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | 3            | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40908.09 (continued)

Sample Tag: Dup-05\_GW-092922

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 05:51, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40908

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: Racer PNC / 30112891.00006

Submitted:09/29/2022 16:00 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.1 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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                                           |          | ALEXIS CRISP        |  |
| COMPANY                                                |          | ARCADIS             |  |
| ADDRESS                                                |          | 28550 CABOT DR #500 |  |
| CITY                                                   | STATE    | ZIP CODE            |  |
| NOVI                                                   | MI       | 48377               |  |
| PHONE NO.                                              | CELL NO. | P.O. NO.            |  |
| —                                                      | —        | 30112891.00006      |  |
| E-MAIL ADDRESS                                         |          | QUOTE NO.           |  |
| ALEXIS.CRISP@ARCADIS.COM<br>TIFFANY.LINDER@ARCADIS.COM |          | —                   |  |

## CHAIN OF CUSTODY RECORD

|              |  |                                             |  |                               |          |
|--------------|--|---------------------------------------------|--|-------------------------------|----------|
| CONTACT NAME |  | ACCOUNTS PAYABLE                            |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  | ARCADIS                                     |  |                               |          |
| ADDRESS      |  | 630 PLAZA DRIVE #600                        |  |                               |          |
| CITY         |  | HIGHLANDS RANCH                             |  | STATE                         | ZIP CODE |
|              |  |                                             |  | CO                            | 80129    |
| PHONE NO.    |  | E-MAIL ADDRESS                              |  |                               |          |
| —            |  | ACCOUNTSPAYABLE@ADMINISTRATIVEC.ARCADIS.COM |  |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| PROJECT NO./NAME<br><b>RACER PUC / 301128911.00006</b>                                                                                                                                                                                            | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>CHRISTINA WEAVER</b> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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>Christine Ute</i> | <input checked="" type="checkbox"/> Sampler | DATE    | TIME |
| SIGNATURE/ORGANIZATION | <i>ARCADIS</i>       |                                             | 9/19/12 | 1300 |
| RECEIVED BY:           | <i>J. M. Miller</i>  |                                             | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                      |                                             | 9/19/12 | 1300 |
| RELINQUISHED BY:       | <i>J. M. Miller</i>  |                                             | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                      |                                             | 9/21/12 | 1600 |
| RECEIVED BY:           | <i>M. Chilcote</i>   |                                             | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                      |                                             | 9/29/12 | 1600 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.1</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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

Rev. 1.26.22



# Quality Control Report

Report ID: QC-S40908-01  
Generated on 10/07/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S40908.01-S40908.09  
Project: Racer PNC / 30112891.00006  
Submitted Date/Time: 09/29/2022 16:00  
Sampled by: Christina Weaver  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-10)  
Prep Batch Summary (Page 11)  
Surrogates per Lab Sample (Pages 12-18)  
Surrogates per QC Sample (Pages 19-20)  
Batch QC Results (Pages 21-29)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S40908.01**

Sample Tag: MWM16-02\_GW-092822

Collected Date/Time: 09/28/2022 16:05

Matrix: Groundwater

COC Reference: 154487

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 01:38 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40908.02**

Sample Tag: MWM16-02\_GW-092822 MS

Collected Date/Time: 09/28/2022 16:05

Matrix: Groundwater

COC Reference: 154487

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 22:06 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40908.03**

Sample Tag: MWM16-02\_GW-092822 MSD

Collected Date/Time: 09/28/2022 16:05

Matrix: Groundwater

COC Reference: 154487

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 22:25 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |



## QC Report - Analysis Summary

**Lab Sample ID: S40908.04**

Sample Tag: Trip Blank\_01

Collected Date/Time: 09/28/2022 00:01

Matrix: Water

COC Reference: 154487

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 00:40 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40908.05**

Sample Tag: MWM16-30\_GW-092922

Collected Date/Time: 09/29/2022 09:18

Matrix: Groundwater

COC Reference: 154487

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 04:33 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40908.06**

Sample Tag: MWM31-02\_GW-092922

Collected Date/Time: 09/29/2022 10:44

Matrix: Groundwater

COC Reference: 154487

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 04:52 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40908.07**

Sample Tag: MWM16-37\_GW-092922

Collected Date/Time: 09/29/2022 11:34

Matrix: Groundwater

COC Reference: 154487

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 05:11 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40908.08**

Sample Tag: Dup-04\_GW-092922

Collected Date/Time: 09/29/2022 00:01

Matrix: Groundwater

COC Reference: 154487

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 05:31 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40908.09**

Sample Tag: Dup-05\_GW-092922

Collected Date/Time: 09/29/2022 00:01

Matrix: Groundwater

COC Reference: 154487

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 05:51 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Prep Batch Summary

### Organics - Volatiles, Prep Batch ID: VF221005W4

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40908.01 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 01:38 | 221005B9 |
| S40908.02 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 22:06 | 221005B9 |
| S40908.03 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 22:25 | 221005B9 |
| S40908.04 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 00:40 | 221005B9 |
| S40908.05 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 04:33 | 221005B9 |
| S40908.06 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 04:52 | 221005B9 |
| S40908.07 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 05:11 | 221005B9 |
| S40908.08 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 05:31 | 221005B9 |
| S40908.09 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 05:51 | 221005B9 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40908.01**

Sample Tag: MWM16-02\_GW-092822

Collected Date/Time: 09/28/2022 16:05

Matrix: Groundwater

COC Reference: 154487

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005B9, Run Date: 10/06/2022 01:38, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>104.9</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>101.6</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>110.7</b> | 89.0 | 112.0 |



## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40908.04

Sample Tag: Trip Blank\_01

Collected Date/Time: 09/28/2022 00:01

Matrix: Water

COC Reference: 154487

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005B9, Run Date: 10/06/2022 00:40, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.6 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 101.9 | 72.0 | 125.0 |
| Toluene-D8            |       | 104.1 | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40908.05

Sample Tag: MWM16-30\_GW-092922

Collected Date/Time: 09/29/2022 09:18

Matrix: Groundwater

COC Reference: 154487

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005B9, Run Date: 10/06/2022 04:33, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 115.6 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 116.2 | 72.0 | 125.0 |
| Toluene-D8            |       | 97.4  | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40908.06**

Sample Tag: MWM31-02\_GW-092922

Collected Date/Time: 09/29/2022 10:44

Matrix: Groundwater

COC Reference: 154487

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005B9, Run Date: 10/06/2022 04:52, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>104.5</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>107.1</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>103.1</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40908.07

Sample Tag: MWM16-37\_GW-092922

Collected Date/Time: 09/29/2022 11:34

Matrix: Groundwater

COC Reference: 154487

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005B9, Run Date: 10/06/2022 05:11, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 123.1 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 93.5  | 72.0 | 125.0 |
| Toluene-D8            |       | 105.6 | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40908.08**

Sample Tag: Dup-04\_GW-092922

Collected Date/Time: 09/29/2022 00:01

Matrix: Groundwater

COC Reference: 154487

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005B9, Run Date: 10/06/2022 05:31, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>104.3</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>102.7</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>91.5</b>  | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40908.09**

Sample Tag: Dup-05\_GW-092922

Collected Date/Time: 09/29/2022 00:01

Matrix: Groundwater

COC Reference: 154487

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005B9, Run Date: 10/06/2022 05:51, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>97.3</b>  | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>105.9</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.2</b> | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF221005W4

QC Types: BLK/LCS/LCSD/MS/MSD

#### Blank (BLK)

Lab Sample ID: 221005B9.BLKW05B

Run in Batch: 221005B9, Run Date: 10/06/2022 00:01, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 99.0  | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 106.2 | 72.0 | 125.0 |
| Toluene-D8            |       | 100.0 | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 108.8 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 108.8 | 72.0 | 125.0 |
| Toluene-D8            | *     | 87.9  | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005B9.LCSDW05B, Parent Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:46, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 123.0 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 99.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 105.7 | 89.0 | 112.0 |

#### Matrix Spike (MS)

Lab Sample ID: 221005B9.4090007M, Parent Sample ID: S40900.04

Run in Batch: 221005B9, Run Date: 10/05/2022 22:45, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.1 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 100.5 | 72.0 | 125.0 |
| Toluene-D8            |       | 100.0 | 89.0 | 112.0 |

#### Matrix Spike (MS)

Lab Sample ID: 221005B9.4090802M, Parent Sample ID: S40908.01

Run in Batch: 221005B9, Run Date: 10/05/2022 22:06, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.5 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 102.6 | 72.0 | 125.0 |
| Toluene-D8            | *     | 123.0 | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090008N, Parent Sample ID: 221005B9.4090007M

Run in Batch: 221005B9, Run Date: 10/05/2022 23:04, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>107.3</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>116.8</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>95.4</b>  | 89.0 | 112.0 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090803N, Parent Sample ID: 221005B9.4090802M

Run in Batch: 221005B9, Run Date: 10/05/2022 22:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>88.6</b>  | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>91.4</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.6</b> | 89.0 | 112.0 |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Blank (BLK)

Lab Sample ID: 221005B9.BLKW05B

Run in Batch: 221005B9, Run Date: 10/06/2022 00:01, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Blank (BLK) (continued)

Lab Sample ID: 221005B9.BLKW05B

Run in Batch: 221005B9, Run Date: 10/06/2022 00:01, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 101.7 | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 111.7 | 44.0 | 134.4 |
| Benzene                        |       | 86.0  | 79.9 | 124.9 |
| Bromodichloromethane           |       | 97.2  | 80.4 | 128.2 |
| Bromoform                      |       | 107.5 | 69.4 | 128.0 |
| Bromomethane                   |       | 137.7 | 56.8 | 151.3 |
| Carbon disulfide               |       | 93.6  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 81.7  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 108.9 | 79.2 | 122.7 |
| Chloroethane                   |       | 140.2 | 53.4 | 149.4 |
| Chloroform                     |       | 116.0 | 78.4 | 124.0 |
| Chloromethane                  |       | 154.9 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 126.7 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 111.1 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 86.5  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 100.1 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 110.7 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 106.4 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 109.1 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 127.0 | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 103.5 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 101.8 | 73.6 | 129.3 |
| Ethylbenzene                   |       | 103.4 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 97.9  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 98.2  | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 112.1 | 73.2 | 122.4 |
| Methylene chloride             |       | 109.5 | 73.3 | 121.1 |
| Styrene                        |       | 113.0 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 110.1 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 92.8  | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 118.0 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 83.7  | 74.5 | 124.5 |
| Toluene                        |       | 90.2  | 79.8 | 124.5 |
| Trichloroethene                |       | 108.2 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 128.2 | 59.7 | 151.8 |
| Vinyl chloride                 | *     | 152.2 | 43.5 | 149.1 |
| o-Xylene                       |       | 115.1 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 97.1  | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 100.9 | 74.4 | 121.5 |
| Cyclohexane                           |       | 103.9 | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 104.7 | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 98.1  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 109.7 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 93.6  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 98.7  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 128.6 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 113.0 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 97.1  | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 96.3  | 74.0 | 131.3 |

## Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005B9.LCSDW05B, Parent Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:46, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|--------------------------------|-------|-------|------|-------|------|--------|
| Acetone                        |       | 93.2  | 29.9 | 161.5 | 8.7  | 30.0   |
| 2-Butanone (MEK)               |       | 101.3 | 44.0 | 134.4 | 9.8  | 30.0   |
| Benzene                        | *     | 117.9 | 79.9 | 124.9 | 31.3 | 30.0   |
| Bromodichloromethane           |       | 115.1 | 80.4 | 128.2 | 16.8 | 30.0   |
| Bromoform                      | *     | 130.5 | 69.4 | 128.0 | 19.3 | 30.0   |
| Bromomethane                   |       | 135.7 | 56.8 | 151.3 | 1.5  | 30.0   |
| Carbon disulfide               |       | 97.7  | 63.8 | 137.4 | 4.4  | 30.0   |
| Carbon tetrachloride           | *     | 112.0 | 72.6 | 133.0 | 31.3 | 30.0   |
| Chlorobenzene                  |       | 112.9 | 79.2 | 122.7 | 3.6  | 30.0   |
| Chloroethane                   |       | 131.3 | 53.4 | 149.4 | 6.6  | 30.0   |
| Chloroform                     |       | 111.6 | 78.4 | 124.0 | 3.9  | 30.0   |
| Chloromethane                  |       | 155.8 | 23.8 | 166.5 | 0.6  | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 117.3 | 21.2 | 189.4 | 7.7  | 30.0   |
| 1,2-Dichlorobenzene            |       | 114.1 | 10.0 | 166.2 | 2.7  | 30.0   |
| 1,2-Dichloroethane             |       | 114.1 | 76.0 | 126.3 | 27.6 | 30.0   |
| 1,2-Dichloropropane            |       | 117.2 | 78.6 | 126.4 | 15.8 | 30.0   |
| 1,3-Dichlorobenzene            |       | 111.3 | 77.0 | 131.3 | 0.6  | 30.0   |
| 1,4-Dichlorobenzene            |       | 112.1 | 20.7 | 137.7 | 5.2  | 30.0   |
| cis-1,2-Dichloroethene         |       | 111.8 | 76.6 | 122.1 | 2.4  | 30.0   |
| Dibromochloromethane           |       | 114.4 | 74.6 | 127.2 | 10.4 | 30.0   |
| Dichlorodifluoromethane        |       | 108.8 | 10.0 | 222.8 | 5.0  | 30.0   |
| trans-1,2-Dichloroethene       |       | 105.5 | 73.6 | 129.3 | 3.5  | 30.0   |
| Ethylbenzene                   |       | 111.6 | 79.5 | 129.1 | 7.7  | 30.0   |
| 2-Hexanone                     |       | 116.8 | 55.4 | 136.9 | 17.6 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 123.3 | 71.6 | 125.2 | 22.7 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 108.8 | 73.2 | 122.4 | 3.0  | 30.0   |
| Methylene chloride             |       | 111.1 | 73.3 | 121.1 | 1.4  | 30.0   |
| Styrene                        | *     | 136.7 | 69.5 | 126.7 | 18.9 | 30.0   |
| 1,1,1-Trichloroethane          |       | 113.3 | 79.4 | 130.9 | 2.8  | 30.0   |
| 1,1,2-Trichloroethane          |       | 122.8 | 78.7 | 123.1 | 27.9 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 221005B9.LCSDW05B, Parent Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:46, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| 1,2,4-Trichlorobenzene                |       | 117.5 | 27.4 | 143.4 | 0.4  | 30.0   |
| Tetrachloroethene                     | *     | 113.7 | 74.5 | 124.5 | 30.4 | 30.0   |
| Toluene                               |       | 113.1 | 79.8 | 124.5 | 22.5 | 30.0   |
| Trichloroethene                       |       | 111.8 | 79.7 | 124.2 | 3.2  | 30.0   |
| Trichlorofluoromethane                |       | 147.6 | 59.7 | 151.8 | 14.0 | 30.0   |
| Vinyl chloride                        | *     | 161.1 | 43.5 | 149.1 | 5.7  | 30.0   |
| o-Xylene                              | *     | 136.1 | 80.2 | 131.0 | 16.8 | 30.0   |
| p,m-Xylene                            |       | 111.1 | 79.4 | 132.2 | 13.4 | 30.0   |
| Isopropylbenzene                      | *     | 135.8 | 74.4 | 121.5 | 29.5 | 30.0   |
| Cyclohexane                           |       | 105.8 | 10.0 | 169.1 | 1.9  | 30.0   |
| 1,1-Dichloroethane                    |       | 109.3 | 71.5 | 126.2 | 4.3  | 30.0   |
| 1,1-Dichloroethene                    |       | 101.6 | 69.6 | 139.4 | 3.4  | 30.0   |
| Methyl Acetate                        |       | 101.7 | 64.7 | 125.4 | 7.6  | 30.0   |
| Methyl cyclohexane                    |       | 111.6 | 76.6 | 131.3 | 17.6 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 101.6 | 75.1 | 135.9 | 2.9  | 30.0   |
| 1,2-Dibromoethane                     |       | 113.4 | 70.3 | 133.7 | 12.6 | 30.0   |
| 1,1,2,2-Tetrachloroethane             | *     | 136.2 | 79.8 | 126.3 | 18.6 | 30.0   |
| cis-1,3-Dichloropropene               | *     | 136.3 | 79.8 | 129.9 | 33.6 | 30.0   |
| trans-1,3-Dichloropropene             | *     | 142.2 | 74.0 | 131.3 | 38.6 | 30.0   |

## Matrix Spike (MS)

Lab Sample ID: 221005B9.4090007M, Parent Sample ID: S40900.04

Run in Batch: 221005B9, Run Date: 10/05/2022 22:45, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   |
|-----------------------------|-------|-------|------|-------|
| Acetone                     |       | 78.5  | 29.9 | 161.5 |
| 2-Butanone (MEK)            |       | 85.8  | 44.0 | 134.4 |
| Benzene                     |       | 99.7  | 79.9 | 124.9 |
| Bromodichloromethane        |       | 125.0 | 80.4 | 128.2 |
| Bromoform                   |       | 93.2  | 69.4 | 128.0 |
| Bromomethane                |       | 120.4 | 56.8 | 151.3 |
| Carbon disulfide            |       | 85.1  | 63.8 | 137.4 |
| Carbon tetrachloride        |       | 98.3  | 72.6 | 133.0 |
| Chlorobenzene               |       | 102.1 | 79.2 | 122.7 |
| Chloroethane                |       | 119.8 | 53.4 | 149.4 |
| Chloroform                  |       | 102.3 | 78.4 | 124.0 |
| Chloromethane               |       | 137.3 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane |       | 104.9 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene         |       | 93.1  | 10.0 | 166.2 |
| 1,2-Dichloroethane          |       | 99.6  | 76.0 | 126.3 |
| 1,2-Dichloropropane         |       | 103.7 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene         |       | 98.5  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene         |       | 99.6  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene      |       | 92.8  | 76.6 | 122.1 |
| Dibromochloromethane        |       | 119.1 | 74.6 | 127.2 |
| Dichlorodifluoromethane     |       | 111.6 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene    |       | 89.5  | 73.6 | 129.3 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Matrix Spike (MS) (continued)

Lab Sample ID: 221005B9.4090007M, Parent Sample ID: S40900.04

Run in Batch: 221005B9, Run Date: 10/05/2022 22:45, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Ethylbenzene                          |       | 98.2  | 79.5 | 129.1 |
| 2-Hexanone                            |       | 97.2  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)           |       | 124.4 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE)        |       | 96.5  | 73.2 | 122.4 |
| Methylene chloride                    |       | 95.2  | 73.3 | 121.1 |
| Styrene                               |       | 96.5  | 69.5 | 126.7 |
| 1,1,1-Trichloroethane                 |       | 109.1 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane                 |       | 114.7 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene                |       | 95.8  | 27.4 | 143.4 |
| Tetrachloroethene                     |       | 93.9  | 74.5 | 124.5 |
| Toluene                               |       | 103.7 | 79.8 | 124.5 |
| Trichloroethene                       |       | 112.4 | 79.7 | 124.2 |
| Trichlorofluoromethane                |       | 123.3 | 59.7 | 151.8 |
| Vinyl chloride                        |       | 124.2 | 43.5 | 149.1 |
| o-Xylene                              |       | 98.0  | 80.2 | 131.0 |
| p,m-Xylene                            |       | 99.2  | 79.4 | 132.2 |
| Isopropylbenzene                      |       | 90.1  | 74.4 | 121.5 |
| Cyclohexane                           |       | 90.4  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 91.4  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 84.6  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 72.7  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 92.3  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 83.2  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 120.0 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 115.1 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 102.8 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 102.5 | 74.0 | 131.3 |

### Matrix Spike (MS)

Lab Sample ID: 221005B9.4090802M, Parent Sample ID: S40908.01

Run in Batch: 221005B9, Run Date: 10/05/2022 22:06, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   |
|-----------------------------|-------|-------|------|-------|
| Acetone                     |       | 98.7  | 29.9 | 161.5 |
| 2-Butanone (MEK)            |       | 93.9  | 44.0 | 134.4 |
| Benzene                     |       | 98.2  | 79.9 | 124.9 |
| Bromodichloromethane        |       | 108.0 | 80.4 | 128.2 |
| Bromoform                   |       | 95.8  | 69.4 | 128.0 |
| Bromomethane                |       | 129.1 | 56.8 | 151.3 |
| Carbon disulfide            |       | 91.8  | 63.8 | 137.4 |
| Carbon tetrachloride        |       | 95.7  | 72.6 | 133.0 |
| Chlorobenzene               |       | 96.2  | 79.2 | 122.7 |
| Chloroethane                |       | 131.5 | 53.4 | 149.4 |
| Chloroform                  |       | 100.0 | 78.4 | 124.0 |
| Chloromethane               |       | 141.1 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane |       | 98.5  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene         |       | 95.7  | 10.0 | 166.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Matrix Spike (MS) (continued)

Lab Sample ID: 221005B9.4090802M, Parent Sample ID: S40908.01

Run in Batch: 221005B9, Run Date: 10/05/2022 22:06, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| 1,2-Dichloroethane                    |       | 98.0  | 76.0 | 126.3 |
| 1,2-Dichloropropane                   |       | 104.4 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene                   |       | 96.2  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene                   |       | 92.8  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene                |       | 99.7  | 76.6 | 122.1 |
| Dibromochloromethane                  |       | 85.0  | 74.6 | 127.2 |
| Dichlorodifluoromethane               |       | 106.2 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene              |       | 95.9  | 73.6 | 129.3 |
| Ethylbenzene                          |       | 83.4  | 79.5 | 129.1 |
| 2-Hexanone                            |       | 110.4 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)           |       | 109.5 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE)        |       | 104.4 | 73.2 | 122.4 |
| Methylene chloride                    |       | 101.4 | 73.3 | 121.1 |
| Styrene                               |       | 80.7  | 69.5 | 126.7 |
| 1,1,1-Trichloroethane                 |       | 97.6  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane                 |       | 120.8 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene                |       | 92.4  | 27.4 | 143.4 |
| Tetrachloroethene                     |       | 104.6 | 74.5 | 124.5 |
| Toluene                               | *     | 134.1 | 79.8 | 124.5 |
| Trichloroethene                       |       | 98.0  | 79.7 | 124.2 |
| Trichlorofluoromethane                |       | 126.1 | 59.7 | 151.8 |
| Vinyl chloride                        |       | 135.8 | 43.5 | 149.1 |
| o-Xylene                              |       | 86.3  | 80.2 | 131.0 |
| p,m-Xylene                            |       | 80.3  | 79.4 | 132.2 |
| Isopropylbenzene                      |       | 96.7  | 74.4 | 121.5 |
| Cyclohexane                           |       | 88.2  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 99.5  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 94.2  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 79.8  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 93.0  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 90.2  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 83.5  | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 100.1 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 104.4 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 114.3 | 74.0 | 131.3 |

## Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090008N, Parent Sample ID: 221005B9.4090007M

Run in Batch: 221005B9, Run Date: 10/05/2022 23:04, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte              | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|----------------------|-------|-------|------|-------|------|--------|
| Acetone              |       | 99.0  | 29.9 | 161.5 | 21.5 | 30.0   |
| 2-Butanone (MEK)     |       | 107.4 | 44.0 | 134.4 | 22.4 | 30.0   |
| Benzene              |       | 104.2 | 79.9 | 124.9 | 4.4  | 30.0   |
| Bromodichloromethane |       | 103.8 | 80.4 | 128.2 | 18.6 | 30.0   |
| Bromoform            |       | 100.6 | 69.4 | 128.0 | 7.6  | 30.0   |
| Bromomethane         |       | 120.1 | 56.8 | 151.3 | 0.3  | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 221005B9.4090008N, Parent Sample ID: 221005B9.4090007M

Run in Batch: 221005B9, Run Date: 10/05/2022 23:04, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| Carbon disulfide                      |       | 93.7  | 63.8 | 137.4 | 9.6  | 30.0   |
| Carbon tetrachloride                  |       | 91.5  | 72.6 | 133.0 | 7.2  | 30.0   |
| Chlorobenzene                         |       | 99.1  | 79.2 | 122.7 | 3.0  | 30.0   |
| Chloroethane                          |       | 116.4 | 53.4 | 149.4 | 2.9  | 30.0   |
| Chloroform                            |       | 106.7 | 78.4 | 124.0 | 4.2  | 30.0   |
| Chloromethane                         |       | 127.5 | 23.8 | 166.5 | 7.4  | 30.0   |
| 1,2-Dibromo-3-chloropropane           |       | 93.1  | 21.2 | 189.4 | 11.9 | 30.0   |
| 1,2-Dichlorobenzene                   |       | 90.5  | 10.0 | 166.2 | 2.9  | 30.0   |
| 1,2-Dichloroethane                    |       | 105.8 | 76.0 | 126.3 | 6.1  | 30.0   |
| 1,2-Dichloropropane                   |       | 104.6 | 78.6 | 126.4 | 0.8  | 30.0   |
| 1,3-Dichlorobenzene                   |       | 97.2  | 77.0 | 131.3 | 1.4  | 30.0   |
| 1,4-Dichlorobenzene                   |       | 94.8  | 20.7 | 137.7 | 4.9  | 30.0   |
| cis-1,2-Dichloroethene                |       | 105.2 | 76.6 | 122.1 | 12.5 | 30.0   |
| Dibromochloromethane                  |       | 105.8 | 74.6 | 127.2 | 11.9 | 30.0   |
| Dichlorodifluoromethane               |       | 105.9 | 10.0 | 222.8 | 5.2  | 30.0   |
| trans-1,2-Dichloroethene              |       | 97.5  | 73.6 | 129.3 | 8.6  | 30.0   |
| Ethylbenzene                          |       | 101.3 | 79.5 | 129.1 | 3.1  | 30.0   |
| 2-Hexanone                            |       | 111.5 | 55.4 | 136.9 | 13.7 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)           |       | 101.9 | 71.6 | 125.2 | 19.9 | 30.0   |
| tert-Methyl butyl ether (MTBE)        |       | 110.2 | 73.2 | 122.4 | 13.2 | 30.0   |
| Methylene chloride                    |       | 109.6 | 73.3 | 121.1 | 14.1 | 30.0   |
| Styrene                               |       | 99.9  | 69.5 | 126.7 | 3.5  | 30.0   |
| 1,1,1-Trichloroethane                 |       | 98.8  | 79.4 | 130.9 | 9.9  | 30.0   |
| 1,1,2-Trichloroethane                 |       | 99.4  | 78.7 | 123.1 | 14.3 | 30.0   |
| 1,2,4-Trichlorobenzene                |       | 90.4  | 27.4 | 143.4 | 5.8  | 30.0   |
| Tetrachloroethene                     |       | 96.9  | 74.5 | 124.5 | 3.2  | 30.0   |
| Toluene                               |       | 93.7  | 79.8 | 124.5 | 10.1 | 30.0   |
| Trichloroethene                       |       | 97.0  | 79.7 | 124.2 | 14.7 | 30.0   |
| Trichlorofluoromethane                |       | 115.5 | 59.7 | 151.8 | 6.6  | 30.0   |
| Vinyl chloride                        |       | 125.3 | 43.5 | 149.1 | 0.9  | 30.0   |
| o-Xylene                              |       | 101.5 | 80.2 | 131.0 | 3.5  | 30.0   |
| p,m-Xylene                            |       | 102.0 | 79.4 | 132.2 | 2.8  | 30.0   |
| Isopropylbenzene                      |       | 104.1 | 74.4 | 121.5 | 14.4 | 30.0   |
| Cyclohexane                           |       | 89.3  | 10.0 | 169.1 | 1.2  | 30.0   |
| 1,1-Dichloroethane                    |       | 104.5 | 71.5 | 126.2 | 13.4 | 30.0   |
| 1,1-Dichloroethene                    |       | 91.8  | 69.6 | 139.4 | 8.1  | 30.0   |
| Methyl Acetate                        |       | 89.3  | 64.7 | 125.4 | 20.5 | 30.0   |
| Methyl cyclohexane                    |       | 92.9  | 76.6 | 131.3 | 0.6  | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 89.4  | 75.1 | 135.9 | 7.2  | 30.0   |
| 1,2-Dibromoethane                     |       | 102.6 | 70.3 | 133.7 | 15.6 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 108.6 | 79.8 | 126.3 | 5.9  | 30.0   |
| cis-1,3-Dichloropropene               |       | 96.7  | 79.8 | 129.9 | 6.2  | 30.0   |
| trans-1,3-Dichloropropene             |       | 98.3  | 74.0 | 131.3 | 4.2  | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090803N, Parent Sample ID: 221005B9.4090802M

Run in Batch: 221005B9, Run Date: 10/05/2022 22:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| Acetone                               |       | 90.2  | 29.9 | 161.5 | 9.0  | 30.0   |
| 2-Butanone (MEK)                      |       | 95.9  | 44.0 | 134.4 | 2.1  | 30.0   |
| Benzene                               |       | 103.3 | 79.9 | 124.9 | 5.0  | 30.0   |
| Bromodichloromethane                  |       | 99.3  | 80.4 | 128.2 | 8.4  | 30.0   |
| Bromoform                             |       | 85.0  | 69.4 | 128.0 | 11.9 | 30.0   |
| Bromomethane                          |       | 101.1 | 56.8 | 151.3 | 24.3 | 30.0   |
| Carbon disulfide                      |       | 97.5  | 63.8 | 137.4 | 6.1  | 30.0   |
| Carbon tetrachloride                  |       | 92.6  | 72.6 | 133.0 | 3.3  | 30.0   |
| Chlorobenzene                         |       | 99.3  | 79.2 | 122.7 | 3.1  | 30.0   |
| Chloroethane                          |       | 101.4 | 53.4 | 149.4 | 25.9 | 30.0   |
| Chloroform                            |       | 99.0  | 78.4 | 124.0 | 1.0  | 30.0   |
| Chloromethane                         | *     | 102.6 | 23.8 | 166.5 | 31.6 | 30.0   |
| 1,2-Dibromo-3-chloropropane           |       | 100.0 | 21.2 | 189.4 | 1.5  | 30.0   |
| 1,2-Dichlorobenzene                   |       | 101.3 | 10.0 | 166.2 | 5.7  | 30.0   |
| 1,2-Dichloroethane                    |       | 90.4  | 76.0 | 126.3 | 8.1  | 30.0   |
| 1,2-Dichloropropane                   |       | 104.2 | 78.6 | 126.4 | 0.2  | 30.0   |
| 1,3-Dichlorobenzene                   |       | 96.8  | 77.0 | 131.3 | 0.6  | 30.0   |
| 1,4-Dichlorobenzene                   |       | 100.8 | 20.7 | 137.7 | 8.3  | 30.0   |
| cis-1,2-Dichloroethene                |       | 101.8 | 76.6 | 122.1 | 2.1  | 30.0   |
| Dibromochloromethane                  |       | 100.7 | 74.6 | 127.2 | 16.9 | 30.0   |
| Dichlorodifluoromethane               |       | 84.9  | 10.0 | 222.8 | 22.3 | 30.0   |
| trans-1,2-Dichloroethene              |       | 99.5  | 73.6 | 129.3 | 3.6  | 30.0   |
| Ethylbenzene                          |       | 98.7  | 79.5 | 129.1 | 16.7 | 30.0   |
| 2-Hexanone                            |       | 102.9 | 55.4 | 136.9 | 7.0  | 30.0   |
| 4-Methyl-2-pentanone (MIBK)           |       | 105.0 | 71.6 | 125.2 | 4.2  | 30.0   |
| tert-Methyl butyl ether (MTBE)        |       | 104.1 | 73.2 | 122.4 | 0.3  | 30.0   |
| Methylene chloride                    |       | 105.9 | 73.3 | 121.1 | 4.3  | 30.0   |
| Styrene                               |       | 85.3  | 69.5 | 126.7 | 5.6  | 30.0   |
| 1,1,1-Trichloroethane                 |       | 95.4  | 79.4 | 130.9 | 2.3  | 30.0   |
| 1,1,2-Trichloroethane                 |       | 102.5 | 78.7 | 123.1 | 16.4 | 30.0   |
| 1,2,4-Trichlorobenzene                |       | 95.0  | 27.4 | 143.4 | 2.8  | 30.0   |
| Tetrachloroethene                     |       | 94.3  | 74.5 | 124.5 | 10.4 | 30.0   |
| Toluene                               |       | 100.2 | 79.8 | 124.5 | 28.9 | 30.0   |
| Trichloroethene                       |       | 99.9  | 79.7 | 124.2 | 1.9  | 30.0   |
| Trichlorofluoromethane                |       | 99.8  | 59.7 | 151.8 | 23.3 | 30.0   |
| Vinyl chloride                        |       | 111.8 | 43.5 | 149.1 | 19.4 | 30.0   |
| o-Xylene                              |       | 89.4  | 80.2 | 131.0 | 3.6  | 30.0   |
| p,m-Xylene                            |       | 96.8  | 79.4 | 132.2 | 18.6 | 30.0   |
| Isopropylbenzene                      |       | 83.9  | 74.4 | 121.5 | 14.2 | 30.0   |
| Cyclohexane                           |       | 90.3  | 10.0 | 169.1 | 2.4  | 30.0   |
| 1,1-Dichloroethane                    |       | 102.9 | 71.5 | 126.2 | 3.3  | 30.0   |
| 1,1-Dichloroethene                    |       | 93.2  | 69.6 | 139.4 | 1.0  | 30.0   |
| Methyl Acetate                        |       | 80.5  | 64.7 | 125.4 | 0.9  | 30.0   |
| Methyl cyclohexane                    |       | 95.1  | 76.6 | 131.3 | 2.2  | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 93.0  | 75.1 | 135.9 | 3.0  | 30.0   |
| 1,2-Dibromoethane                     |       | 103.0 | 70.3 | 133.7 | 20.9 | 30.0   |



## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 221005B9.4090803N, Parent Sample ID: 221005B9.4090802M

Run in Batch: 221005B9, Run Date: 10/05/2022 22:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------|-------|-------|------|-------|------|--------|
| 1,1,2,2-Tetrachloroethane |       | 84.1  | 79.8 | 126.3 | 17.3 | 30.0   |
| cis-1,3-Dichloropropene   |       | 102.0 | 79.8 | 129.9 | 2.4  | 30.0   |
| trans-1,3-Dichloropropene |       | 99.5  | 74.0 | 131.3 | 13.8 | 30.0   |

## REPORT TO

## CHAIN OF CUSTODY RECORD

**INVOICE TO**

|                                                                          |               |                            |                   |
|--------------------------------------------------------------------------|---------------|----------------------------|-------------------|
| CONTACT NAME                                                             |               | ALEXIS CRISP               |                   |
| COMPANY                                                                  |               | ARCADIS                    |                   |
| ADDRESS<br>28550 CABOT DR #500                                           |               |                            |                   |
| CITY<br>NOVI                                                             |               | STATE<br>MI                | ZIP CODE<br>48377 |
| PHONE NO.<br>—                                                           | CELL NO.<br>— | P.O. NO.<br>30112891.00006 |                   |
| E-MAIL ADDRESS<br>ALEXIS.CRISP@ARCADIS.COM<br>TIFFANY.LINDER@ARCADIS.COM |               | QUOTE NO.<br>—             |                   |

|              |  |                                            |  |                               |          |
|--------------|--|--------------------------------------------|--|-------------------------------|----------|
| CONTACT NAME |  | ACCOUNTS PAYABLE                           |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  | ARCADIS                                    |  |                               |          |
| ADDRESS      |  | 630 PLAZA DRIVE #600                       |  |                               |          |
| CITY         |  | HIGHLANDS RANCH                            |  | STATE                         | ZIP CODE |
|              |  |                                            |  | CO                            | 80129    |
| PHONE NO.    |  | E-MAIL ADDRESS                             |  |                               |          |
| —            |  | ACCOUNTSPAYABLE@ADMINISTRATION@ARCADIS.COM |  |                               |          |

|                                                                                                                                                                                                                                                   |                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| PROJECT NO./NAME<br><b>RACER PLC / 301128911.00006</b>                                                                                                                                                                                            | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>CHRISTINA WEAVER</b> <i>[Signature]</i> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                                   |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER _____ |                                                                                   |

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

[illegible]

|                        |                      |           |         |       |
|------------------------|----------------------|-----------|---------|-------|
| RELINQUISHED BY:       | <i>Christina Ute</i> | X Sampler | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                      |           | 9/29/22 | 1300  |
| RECEIVED BY:           | <i>J. M. Miller</i>  |           | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                      |           | 9/29/22 | 13:00 |
| RELINQUISHED BY:       | <i>J. M. Miller</i>  |           | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                      |           | 9/29/22 | 16:00 |
| RECEIVED BY:           | <i>M. Chilcote</i>   |           | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                      |           | 9/29/22 | 16:00 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.1</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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

Rev. 1.26.22



# Analytical Laboratory Report

Report ID: S40909.01(01)  
Generated on 10/06/2022

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, Ian Drost

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): S40909.01  
Project: Racer PNC / 30112891.00006  
Collected Date(s): 09/28/2022  
Submitted Date/Time: 09/29/2022 16:00  
Sampled by: Christina Weaver  
P.O. #: 30112891.00006

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General Report Notes (Page 2)  
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Glossary of Abbreviations (Page 3)  
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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report



# Analytical Laboratory Report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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 |
|-----------|-------------------|-------------|---------------------|
| S40909.01 | MWM2-28_GW-092822 | Groundwater | 09/28/22 14:35      |



# Analytical Laboratory Report

Lab Sample ID: S40909.01

Sample Tag: MWM2-28\_GW-092822

Collected Date/Time: 09/28/2022 14:35

Matrix: Groundwater

COC Reference: 157190

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 3.1               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 06:10, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |





# Analytical Laboratory Report

Lab Sample ID: S40909.01 (continued)  
Sample Tag: MWM2-28\_GW-092822

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 06:10, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40909

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: Racer PNC / 30112891.00006

Submitted:09/29/2022 16:00 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.1 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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                                          |          | ALEXIS CRISP  |          |
| COMPANY                                               |          | ARCADIS       |          |
| ADDRESS                                               |          |               |          |
| 28550 CABOT DRIVE #500                                |          |               |          |
| CITY                                                  |          | STATE         | ZIP CODE |
| NOVI                                                  |          | MI            | 48377    |
| PHONE NO.                                             | CELL NO. | P.O. NO.      |          |
| —                                                     | —        | 3012891.00006 |          |
| E-MAIL ADDRESS                                        |          | QUOTE NO.     |          |
| ALEXIS.CRISP@ARCADIS.COM<br>TIFANY.LINDER@ARCADIS.COM |          | —             |          |

|              |  |                                            |  |                               |          |
|--------------|--|--------------------------------------------|--|-------------------------------|----------|
| CONTACT NAME |  | ACCOUNTS PAYABLE                           |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  | ARCADIS                                    |  |                               |          |
| ADDRESS      |  | 630 PLAZA DRIVE STE # 600                  |  |                               |          |
| CITY         |  | HIGHLANDS RANCH                            |  | STATE                         | ZIP CODE |
|              |  |                                            |  | CO                            | 80129    |
| PHONE NO.    |  | E-MAIL ADDRESS                             |  |                               |          |
|              |  | ACCOUNTSPAYABLE.ADMINISTRATION@ARCADIS.COM |  |                               |          |

|                                                |                                                                                 |
|------------------------------------------------|---------------------------------------------------------------------------------|
| PROJECT NO./NAME<br>RACER ENC / 30112891.00006 | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br>CHRISTINA WEAVER <i>Christina Weaver</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 |

[illegible]

| # Containers & Preservatives |     |                  |                                |      |      |       |  | SITE SPECIFIC<br>VOCs 8260D                                        | Certifications |                                                                           |
|------------------------------|-----|------------------|--------------------------------|------|------|-------|--|--------------------------------------------------------------------|----------------|---------------------------------------------------------------------------|
| NONE                         | HCl | HNO <sub>3</sub> | H <sub>2</sub> SO <sub>4</sub> | NaOH | MeOH | OTHER |  |                                                                    |                | <input type="checkbox"/> OHIO VAP <input type="checkbox"/> Drinking Water |
| 3                            |     |                  |                                |      |      |       |  |                                                                    |                | <input type="checkbox"/> DoD <input type="checkbox"/> NPDES               |
|                              |     |                  |                                |      |      |       |  | Project Locations                                                  |                |                                                                           |
|                              |     |                  |                                |      |      |       |  | <input type="checkbox"/> Detroit <input type="checkbox"/> New York |                |                                                                           |
|                              |     |                  |                                |      |      |       |  | <input type="checkbox"/> Other _____                               |                |                                                                           |
|                              |     |                  |                                |      |      |       |  | Special Instructions                                               |                |                                                                           |
|                              |     |                  |                                |      |      |       |  |                                                                    |                |                                                                           |

|                                            |                            |                                             |                   |              |
|--------------------------------------------|----------------------------|---------------------------------------------|-------------------|--------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>[Signature]</i> / AREAS | <input checked="" type="checkbox"/> Sampler | DATE<br>9/19/22   | TIME<br>1300 |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>[Signature]</i>         |                                             | DATE<br>9/29/22   | TIME<br>1310 |
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>[Signature]</i>         |                                             | DATE<br>9/29/2022 | TIME<br>1600 |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>[Signature]</i>         |                                             | DATE<br>9/28/22   | TIME<br>1600 |

|                                            |                                                                         |          |                                    |      |
|--------------------------------------------|-------------------------------------------------------------------------|----------|------------------------------------|------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE                               | TIME |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE                               | TIME |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: TEMP. ON ARRIVAL <u>3.1</u> |      |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |                                    |      |

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

Rev. 1.26.22



# Quality Control Report

Report ID: QC-S40909-01  
Generated on 10/07/2022

## Report to

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

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

Phone: 810-225-1909 FAX:

## Report Summary

Lab Sample ID(s): S40909.01  
Project: Racer PNC / 30112891.00006  
Submitted Date/Time: 09/29/2022 16:00  
Sampled by: Christina Weaver  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Page 2)  
Prep Batch Summary (Page 3)  
Surrogates per Lab Sample (Page 4)  
Surrogates per QC Sample (Pages 5-6)  
Batch QC Results (Pages 7-15)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S40909.01**

Sample Tag: MWM2-28\_GW-092822

Collected Date/Time: 09/28/2022 14:35

Matrix: Groundwater

COC Reference: 157190

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 06:10 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Prep Batch Summary

### Organics - Volatiles, Prep Batch ID: VF221005W4

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40909.01 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 06:10 | 221005B9 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40909.01

Sample Tag: MWM2-28\_GW-092822

Collected Date/Time: 09/28/2022 14:35

Matrix: Groundwater

COC Reference: 157190

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005B9, Run Date: 10/06/2022 06:10, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 104.8 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 100.8 | 72.0 | 125.0 |
| Toluene-D8            |       | 102.8 | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF221005W4

QC Types: BLK/LCS/LCSD/MS/MSD

#### Blank (BLK)

Lab Sample ID: 221005B9.BLKW05B

Run in Batch: 221005B9, Run Date: 10/06/2022 00:01, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 99.0  | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 106.2 | 72.0 | 125.0 |
| Toluene-D8            |       | 100.0 | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 108.8 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 108.8 | 72.0 | 125.0 |
| Toluene-D8            | *     | 87.9  | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005B9.LCSDW05B, Parent Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:46, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 123.0 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 99.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 105.7 | 89.0 | 112.0 |

#### Matrix Spike (MS)

Lab Sample ID: 221005B9.4090007M, Parent Sample ID: S40900.04

Run in Batch: 221005B9, Run Date: 10/05/2022 22:45, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.1 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 100.5 | 72.0 | 125.0 |
| Toluene-D8            |       | 100.0 | 89.0 | 112.0 |

#### Matrix Spike (MS)

Lab Sample ID: 221005B9.4090802M, Parent Sample ID: S40908.01

Run in Batch: 221005B9, Run Date: 10/05/2022 22:06, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.5 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 102.6 | 72.0 | 125.0 |
| Toluene-D8            | *     | 123.0 | 89.0 | 112.0 |



## QC Report - Surrogates per QC Sample

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090008N, Parent Sample ID: 221005B9.4090007M

Run in Batch: 221005B9, Run Date: 10/05/2022 23:04, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>107.3</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>116.8</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>95.4</b>  | 89.0 | 112.0 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090803N, Parent Sample ID: 221005B9.4090802M

Run in Batch: 221005B9, Run Date: 10/05/2022 22:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>88.6</b>  | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>91.4</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.6</b> | 89.0 | 112.0 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Blank (BLK)

Lab Sample ID: 221005B9.BLKW05B

Run in Batch: 221005B9, Run Date: 10/06/2022 00:01, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Blank (BLK) (continued)

Lab Sample ID: 221005B9.BLKW05B

Run in Batch: 221005B9, Run Date: 10/06/2022 00:01, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 101.7 | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 111.7 | 44.0 | 134.4 |
| Benzene                        |       | 86.0  | 79.9 | 124.9 |
| Bromodichloromethane           |       | 97.2  | 80.4 | 128.2 |
| Bromoform                      |       | 107.5 | 69.4 | 128.0 |
| Bromomethane                   |       | 137.7 | 56.8 | 151.3 |
| Carbon disulfide               |       | 93.6  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 81.7  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 108.9 | 79.2 | 122.7 |
| Chloroethane                   |       | 140.2 | 53.4 | 149.4 |
| Chloroform                     |       | 116.0 | 78.4 | 124.0 |
| Chloromethane                  |       | 154.9 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 126.7 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 111.1 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 86.5  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 100.1 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 110.7 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 106.4 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 109.1 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 127.0 | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 103.5 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 101.8 | 73.6 | 129.3 |
| Ethylbenzene                   |       | 103.4 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 97.9  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 98.2  | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 112.1 | 73.2 | 122.4 |
| Methylene chloride             |       | 109.5 | 73.3 | 121.1 |
| Styrene                        |       | 113.0 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 110.1 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 92.8  | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 118.0 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 83.7  | 74.5 | 124.5 |
| Toluene                        |       | 90.2  | 79.8 | 124.5 |
| Trichloroethene                |       | 108.2 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 128.2 | 59.7 | 151.8 |
| Vinyl chloride                 | *     | 152.2 | 43.5 | 149.1 |
| o-Xylene                       |       | 115.1 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 97.1  | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 100.9 | 74.4 | 121.5 |
| Cyclohexane                           |       | 103.9 | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 104.7 | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 98.1  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 109.7 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 93.6  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 98.7  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 128.6 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 113.0 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 97.1  | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 96.3  | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005B9.LCSDW05B, Parent Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:46, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|--------------------------------|-------|-------|------|-------|------|--------|
| Acetone                        |       | 93.2  | 29.9 | 161.5 | 8.7  | 30.0   |
| 2-Butanone (MEK)               |       | 101.3 | 44.0 | 134.4 | 9.8  | 30.0   |
| Benzene                        | *     | 117.9 | 79.9 | 124.9 | 31.3 | 30.0   |
| Bromodichloromethane           |       | 115.1 | 80.4 | 128.2 | 16.8 | 30.0   |
| Bromoform                      | *     | 130.5 | 69.4 | 128.0 | 19.3 | 30.0   |
| Bromomethane                   |       | 135.7 | 56.8 | 151.3 | 1.5  | 30.0   |
| Carbon disulfide               |       | 97.7  | 63.8 | 137.4 | 4.4  | 30.0   |
| Carbon tetrachloride           | *     | 112.0 | 72.6 | 133.0 | 31.3 | 30.0   |
| Chlorobenzene                  |       | 112.9 | 79.2 | 122.7 | 3.6  | 30.0   |
| Chloroethane                   |       | 131.3 | 53.4 | 149.4 | 6.6  | 30.0   |
| Chloroform                     |       | 111.6 | 78.4 | 124.0 | 3.9  | 30.0   |
| Chloromethane                  |       | 155.8 | 23.8 | 166.5 | 0.6  | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 117.3 | 21.2 | 189.4 | 7.7  | 30.0   |
| 1,2-Dichlorobenzene            |       | 114.1 | 10.0 | 166.2 | 2.7  | 30.0   |
| 1,2-Dichloroethane             |       | 114.1 | 76.0 | 126.3 | 27.6 | 30.0   |
| 1,2-Dichloropropane            |       | 117.2 | 78.6 | 126.4 | 15.8 | 30.0   |
| 1,3-Dichlorobenzene            |       | 111.3 | 77.0 | 131.3 | 0.6  | 30.0   |
| 1,4-Dichlorobenzene            |       | 112.1 | 20.7 | 137.7 | 5.2  | 30.0   |
| cis-1,2-Dichloroethene         |       | 111.8 | 76.6 | 122.1 | 2.4  | 30.0   |
| Dibromochloromethane           |       | 114.4 | 74.6 | 127.2 | 10.4 | 30.0   |
| Dichlorodifluoromethane        |       | 108.8 | 10.0 | 222.8 | 5.0  | 30.0   |
| trans-1,2-Dichloroethene       |       | 105.5 | 73.6 | 129.3 | 3.5  | 30.0   |
| Ethylbenzene                   |       | 111.6 | 79.5 | 129.1 | 7.7  | 30.0   |
| 2-Hexanone                     |       | 116.8 | 55.4 | 136.9 | 17.6 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 123.3 | 71.6 | 125.2 | 22.7 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 108.8 | 73.2 | 122.4 | 3.0  | 30.0   |
| Methylene chloride             |       | 111.1 | 73.3 | 121.1 | 1.4  | 30.0   |
| Styrene                        | *     | 136.7 | 69.5 | 126.7 | 18.9 | 30.0   |
| 1,1,1-Trichloroethane          |       | 113.3 | 79.4 | 130.9 | 2.8  | 30.0   |
| 1,1,2-Trichloroethane          |       | 122.8 | 78.7 | 123.1 | 27.9 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 221005B9.LCSDW05B, Parent Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:46, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| 1,2,4-Trichlorobenzene                |       | 117.5 | 27.4 | 143.4 | 0.4  | 30.0   |
| Tetrachloroethene                     | *     | 113.7 | 74.5 | 124.5 | 30.4 | 30.0   |
| Toluene                               |       | 113.1 | 79.8 | 124.5 | 22.5 | 30.0   |
| Trichloroethene                       |       | 111.8 | 79.7 | 124.2 | 3.2  | 30.0   |
| Trichlorofluoromethane                |       | 147.6 | 59.7 | 151.8 | 14.0 | 30.0   |
| Vinyl chloride                        | *     | 161.1 | 43.5 | 149.1 | 5.7  | 30.0   |
| o-Xylene                              | *     | 136.1 | 80.2 | 131.0 | 16.8 | 30.0   |
| p,m-Xylene                            |       | 111.1 | 79.4 | 132.2 | 13.4 | 30.0   |
| Isopropylbenzene                      | *     | 135.8 | 74.4 | 121.5 | 29.5 | 30.0   |
| Cyclohexane                           |       | 105.8 | 10.0 | 169.1 | 1.9  | 30.0   |
| 1,1-Dichloroethane                    |       | 109.3 | 71.5 | 126.2 | 4.3  | 30.0   |
| 1,1-Dichloroethene                    |       | 101.6 | 69.6 | 139.4 | 3.4  | 30.0   |
| Methyl Acetate                        |       | 101.7 | 64.7 | 125.4 | 7.6  | 30.0   |
| Methyl cyclohexane                    |       | 111.6 | 76.6 | 131.3 | 17.6 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 101.6 | 75.1 | 135.9 | 2.9  | 30.0   |
| 1,2-Dibromoethane                     |       | 113.4 | 70.3 | 133.7 | 12.6 | 30.0   |
| 1,1,2,2-Tetrachloroethane             | *     | 136.2 | 79.8 | 126.3 | 18.6 | 30.0   |
| cis-1,3-Dichloropropene               | *     | 136.3 | 79.8 | 129.9 | 33.6 | 30.0   |
| trans-1,3-Dichloropropene             | *     | 142.2 | 74.0 | 131.3 | 38.6 | 30.0   |

## Matrix Spike (MS)

Lab Sample ID: 221005B9.4090007M, Parent Sample ID: S40900.04

Run in Batch: 221005B9, Run Date: 10/05/2022 22:45, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   |
|-----------------------------|-------|-------|------|-------|
| Acetone                     |       | 78.5  | 29.9 | 161.5 |
| 2-Butanone (MEK)            |       | 85.8  | 44.0 | 134.4 |
| Benzene                     |       | 99.7  | 79.9 | 124.9 |
| Bromodichloromethane        |       | 125.0 | 80.4 | 128.2 |
| Bromoform                   |       | 93.2  | 69.4 | 128.0 |
| Bromomethane                |       | 120.4 | 56.8 | 151.3 |
| Carbon disulfide            |       | 85.1  | 63.8 | 137.4 |
| Carbon tetrachloride        |       | 98.3  | 72.6 | 133.0 |
| Chlorobenzene               |       | 102.1 | 79.2 | 122.7 |
| Chloroethane                |       | 119.8 | 53.4 | 149.4 |
| Chloroform                  |       | 102.3 | 78.4 | 124.0 |
| Chloromethane               |       | 137.3 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane |       | 104.9 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene         |       | 93.1  | 10.0 | 166.2 |
| 1,2-Dichloroethane          |       | 99.6  | 76.0 | 126.3 |
| 1,2-Dichloropropane         |       | 103.7 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene         |       | 98.5  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene         |       | 99.6  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene      |       | 92.8  | 76.6 | 122.1 |
| Dibromochloromethane        |       | 119.1 | 74.6 | 127.2 |
| Dichlorodifluoromethane     |       | 111.6 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene    |       | 89.5  | 73.6 | 129.3 |

**Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)**

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

**Matrix Spike (MS) (continued)**

Lab Sample ID: 221005B9.4090007M, Parent Sample ID: S40900.04

Run in Batch: 221005B9, Run Date: 10/05/2022 22:45, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Ethylbenzene                          |       | 98.2  | 79.5 | 129.1 |
| 2-Hexanone                            |       | 97.2  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)           |       | 124.4 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE)        |       | 96.5  | 73.2 | 122.4 |
| Methylene chloride                    |       | 95.2  | 73.3 | 121.1 |
| Styrene                               |       | 96.5  | 69.5 | 126.7 |
| 1,1,1-Trichloroethane                 |       | 109.1 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane                 |       | 114.7 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene                |       | 95.8  | 27.4 | 143.4 |
| Tetrachloroethene                     |       | 93.9  | 74.5 | 124.5 |
| Toluene                               |       | 103.7 | 79.8 | 124.5 |
| Trichloroethene                       |       | 112.4 | 79.7 | 124.2 |
| Trichlorofluoromethane                |       | 123.3 | 59.7 | 151.8 |
| Vinyl chloride                        |       | 124.2 | 43.5 | 149.1 |
| o-Xylene                              |       | 98.0  | 80.2 | 131.0 |
| p,m-Xylene                            |       | 99.2  | 79.4 | 132.2 |
| Isopropylbenzene                      |       | 90.1  | 74.4 | 121.5 |
| Cyclohexane                           |       | 90.4  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 91.4  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 84.6  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 72.7  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 92.3  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 83.2  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 120.0 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 115.1 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 102.8 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 102.5 | 74.0 | 131.3 |

**Matrix Spike (MS)**

Lab Sample ID: 221005B9.4090802M, Parent Sample ID: S40908.01

Run in Batch: 221005B9, Run Date: 10/05/2022 22:06, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   |
|-----------------------------|-------|-------|------|-------|
| Acetone                     |       | 98.7  | 29.9 | 161.5 |
| 2-Butanone (MEK)            |       | 93.9  | 44.0 | 134.4 |
| Benzene                     |       | 98.2  | 79.9 | 124.9 |
| Bromodichloromethane        |       | 108.0 | 80.4 | 128.2 |
| Bromoform                   |       | 95.8  | 69.4 | 128.0 |
| Bromomethane                |       | 129.1 | 56.8 | 151.3 |
| Carbon disulfide            |       | 91.8  | 63.8 | 137.4 |
| Carbon tetrachloride        |       | 95.7  | 72.6 | 133.0 |
| Chlorobenzene               |       | 96.2  | 79.2 | 122.7 |
| Chloroethane                |       | 131.5 | 53.4 | 149.4 |
| Chloroform                  |       | 100.0 | 78.4 | 124.0 |
| Chloromethane               |       | 141.1 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane |       | 98.5  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene         |       | 95.7  | 10.0 | 166.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Matrix Spike (MS) (continued)

Lab Sample ID: 221005B9.4090802M, Parent Sample ID: S40908.01

Run in Batch: 221005B9, Run Date: 10/05/2022 22:06, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| 1,2-Dichloroethane                    |       | 98.0  | 76.0 | 126.3 |
| 1,2-Dichloropropane                   |       | 104.4 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene                   |       | 96.2  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene                   |       | 92.8  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene                |       | 99.7  | 76.6 | 122.1 |
| Dibromochloromethane                  |       | 85.0  | 74.6 | 127.2 |
| Dichlorodifluoromethane               |       | 106.2 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene              |       | 95.9  | 73.6 | 129.3 |
| Ethylbenzene                          |       | 83.4  | 79.5 | 129.1 |
| 2-Hexanone                            |       | 110.4 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)           |       | 109.5 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE)        |       | 104.4 | 73.2 | 122.4 |
| Methylene chloride                    |       | 101.4 | 73.3 | 121.1 |
| Styrene                               |       | 80.7  | 69.5 | 126.7 |
| 1,1,1-Trichloroethane                 |       | 97.6  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane                 |       | 120.8 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene                |       | 92.4  | 27.4 | 143.4 |
| Tetrachloroethene                     |       | 104.6 | 74.5 | 124.5 |
| Toluene                               | *     | 134.1 | 79.8 | 124.5 |
| Trichloroethene                       |       | 98.0  | 79.7 | 124.2 |
| Trichlorofluoromethane                |       | 126.1 | 59.7 | 151.8 |
| Vinyl chloride                        |       | 135.8 | 43.5 | 149.1 |
| o-Xylene                              |       | 86.3  | 80.2 | 131.0 |
| p,m-Xylene                            |       | 80.3  | 79.4 | 132.2 |
| Isopropylbenzene                      |       | 96.7  | 74.4 | 121.5 |
| Cyclohexane                           |       | 88.2  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 99.5  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 94.2  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 79.8  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 93.0  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 90.2  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 83.5  | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 100.1 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 104.4 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 114.3 | 74.0 | 131.3 |

## Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090008N, Parent Sample ID: 221005B9.4090007M

Run in Batch: 221005B9, Run Date: 10/05/2022 23:04, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte              | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|----------------------|-------|-------|------|-------|------|--------|
| Acetone              |       | 99.0  | 29.9 | 161.5 | 21.5 | 30.0   |
| 2-Butanone (MEK)     |       | 107.4 | 44.0 | 134.4 | 22.4 | 30.0   |
| Benzene              |       | 104.2 | 79.9 | 124.9 | 4.4  | 30.0   |
| Bromodichloromethane |       | 103.8 | 80.4 | 128.2 | 18.6 | 30.0   |
| Bromoform            |       | 100.6 | 69.4 | 128.0 | 7.6  | 30.0   |
| Bromomethane         |       | 120.1 | 56.8 | 151.3 | 0.3  | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 221005B9.4090008N, Parent Sample ID: 221005B9.4090007M

Run in Batch: 221005B9, Run Date: 10/05/2022 23:04, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| Carbon disulfide                      |       | 93.7  | 63.8 | 137.4 | 9.6  | 30.0   |
| Carbon tetrachloride                  |       | 91.5  | 72.6 | 133.0 | 7.2  | 30.0   |
| Chlorobenzene                         |       | 99.1  | 79.2 | 122.7 | 3.0  | 30.0   |
| Chloroethane                          |       | 116.4 | 53.4 | 149.4 | 2.9  | 30.0   |
| Chloroform                            |       | 106.7 | 78.4 | 124.0 | 4.2  | 30.0   |
| Chloromethane                         |       | 127.5 | 23.8 | 166.5 | 7.4  | 30.0   |
| 1,2-Dibromo-3-chloropropane           |       | 93.1  | 21.2 | 189.4 | 11.9 | 30.0   |
| 1,2-Dichlorobenzene                   |       | 90.5  | 10.0 | 166.2 | 2.9  | 30.0   |
| 1,2-Dichloroethane                    |       | 105.8 | 76.0 | 126.3 | 6.1  | 30.0   |
| 1,2-Dichloropropane                   |       | 104.6 | 78.6 | 126.4 | 0.8  | 30.0   |
| 1,3-Dichlorobenzene                   |       | 97.2  | 77.0 | 131.3 | 1.4  | 30.0   |
| 1,4-Dichlorobenzene                   |       | 94.8  | 20.7 | 137.7 | 4.9  | 30.0   |
| cis-1,2-Dichloroethene                |       | 105.2 | 76.6 | 122.1 | 12.5 | 30.0   |
| Dibromochloromethane                  |       | 105.8 | 74.6 | 127.2 | 11.9 | 30.0   |
| Dichlorodifluoromethane               |       | 105.9 | 10.0 | 222.8 | 5.2  | 30.0   |
| trans-1,2-Dichloroethene              |       | 97.5  | 73.6 | 129.3 | 8.6  | 30.0   |
| Ethylbenzene                          |       | 101.3 | 79.5 | 129.1 | 3.1  | 30.0   |
| 2-Hexanone                            |       | 111.5 | 55.4 | 136.9 | 13.7 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)           |       | 101.9 | 71.6 | 125.2 | 19.9 | 30.0   |
| tert-Methyl butyl ether (MTBE)        |       | 110.2 | 73.2 | 122.4 | 13.2 | 30.0   |
| Methylene chloride                    |       | 109.6 | 73.3 | 121.1 | 14.1 | 30.0   |
| Styrene                               |       | 99.9  | 69.5 | 126.7 | 3.5  | 30.0   |
| 1,1,1-Trichloroethane                 |       | 98.8  | 79.4 | 130.9 | 9.9  | 30.0   |
| 1,1,2-Trichloroethane                 |       | 99.4  | 78.7 | 123.1 | 14.3 | 30.0   |
| 1,2,4-Trichlorobenzene                |       | 90.4  | 27.4 | 143.4 | 5.8  | 30.0   |
| Tetrachloroethene                     |       | 96.9  | 74.5 | 124.5 | 3.2  | 30.0   |
| Toluene                               |       | 93.7  | 79.8 | 124.5 | 10.1 | 30.0   |
| Trichloroethene                       |       | 97.0  | 79.7 | 124.2 | 14.7 | 30.0   |
| Trichlorofluoromethane                |       | 115.5 | 59.7 | 151.8 | 6.6  | 30.0   |
| Vinyl chloride                        |       | 125.3 | 43.5 | 149.1 | 0.9  | 30.0   |
| o-Xylene                              |       | 101.5 | 80.2 | 131.0 | 3.5  | 30.0   |
| p,m-Xylene                            |       | 102.0 | 79.4 | 132.2 | 2.8  | 30.0   |
| Isopropylbenzene                      |       | 104.1 | 74.4 | 121.5 | 14.4 | 30.0   |
| Cyclohexane                           |       | 89.3  | 10.0 | 169.1 | 1.2  | 30.0   |
| 1,1-Dichloroethane                    |       | 104.5 | 71.5 | 126.2 | 13.4 | 30.0   |
| 1,1-Dichloroethene                    |       | 91.8  | 69.6 | 139.4 | 8.1  | 30.0   |
| Methyl Acetate                        |       | 89.3  | 64.7 | 125.4 | 20.5 | 30.0   |
| Methyl cyclohexane                    |       | 92.9  | 76.6 | 131.3 | 0.6  | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 89.4  | 75.1 | 135.9 | 7.2  | 30.0   |
| 1,2-Dibromoethane                     |       | 102.6 | 70.3 | 133.7 | 15.6 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 108.6 | 79.8 | 126.3 | 5.9  | 30.0   |
| cis-1,3-Dichloropropene               |       | 96.7  | 79.8 | 129.9 | 6.2  | 30.0   |
| trans-1,3-Dichloropropene             |       | 98.3  | 74.0 | 131.3 | 4.2  | 30.0   |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090803N, Parent Sample ID: 221005B9.4090802M

Run in Batch: 221005B9, Run Date: 10/05/2022 22:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| Acetone                               |       | 90.2  | 29.9 | 161.5 | 9.0  | 30.0   |
| 2-Butanone (MEK)                      |       | 95.9  | 44.0 | 134.4 | 2.1  | 30.0   |
| Benzene                               |       | 103.3 | 79.9 | 124.9 | 5.0  | 30.0   |
| Bromodichloromethane                  |       | 99.3  | 80.4 | 128.2 | 8.4  | 30.0   |
| Bromoform                             |       | 85.0  | 69.4 | 128.0 | 11.9 | 30.0   |
| Bromomethane                          |       | 101.1 | 56.8 | 151.3 | 24.3 | 30.0   |
| Carbon disulfide                      |       | 97.5  | 63.8 | 137.4 | 6.1  | 30.0   |
| Carbon tetrachloride                  |       | 92.6  | 72.6 | 133.0 | 3.3  | 30.0   |
| Chlorobenzene                         |       | 99.3  | 79.2 | 122.7 | 3.1  | 30.0   |
| Chloroethane                          |       | 101.4 | 53.4 | 149.4 | 25.9 | 30.0   |
| Chloroform                            |       | 99.0  | 78.4 | 124.0 | 1.0  | 30.0   |
| Chloromethane                         | *     | 102.6 | 23.8 | 166.5 | 31.6 | 30.0   |
| 1,2-Dibromo-3-chloropropane           |       | 100.0 | 21.2 | 189.4 | 1.5  | 30.0   |
| 1,2-Dichlorobenzene                   |       | 101.3 | 10.0 | 166.2 | 5.7  | 30.0   |
| 1,2-Dichloroethane                    |       | 90.4  | 76.0 | 126.3 | 8.1  | 30.0   |
| 1,2-Dichloropropane                   |       | 104.2 | 78.6 | 126.4 | 0.2  | 30.0   |
| 1,3-Dichlorobenzene                   |       | 96.8  | 77.0 | 131.3 | 0.6  | 30.0   |
| 1,4-Dichlorobenzene                   |       | 100.8 | 20.7 | 137.7 | 8.3  | 30.0   |
| cis-1,2-Dichloroethene                |       | 101.8 | 76.6 | 122.1 | 2.1  | 30.0   |
| Dibromochloromethane                  |       | 100.7 | 74.6 | 127.2 | 16.9 | 30.0   |
| Dichlorodifluoromethane               |       | 84.9  | 10.0 | 222.8 | 22.3 | 30.0   |
| trans-1,2-Dichloroethene              |       | 99.5  | 73.6 | 129.3 | 3.6  | 30.0   |
| Ethylbenzene                          |       | 98.7  | 79.5 | 129.1 | 16.7 | 30.0   |
| 2-Hexanone                            |       | 102.9 | 55.4 | 136.9 | 7.0  | 30.0   |
| 4-Methyl-2-pentanone (MIBK)           |       | 105.0 | 71.6 | 125.2 | 4.2  | 30.0   |
| tert-Methyl butyl ether (MTBE)        |       | 104.1 | 73.2 | 122.4 | 0.3  | 30.0   |
| Methylene chloride                    |       | 105.9 | 73.3 | 121.1 | 4.3  | 30.0   |
| Styrene                               |       | 85.3  | 69.5 | 126.7 | 5.6  | 30.0   |
| 1,1,1-Trichloroethane                 |       | 95.4  | 79.4 | 130.9 | 2.3  | 30.0   |
| 1,1,2-Trichloroethane                 |       | 102.5 | 78.7 | 123.1 | 16.4 | 30.0   |
| 1,2,4-Trichlorobenzene                |       | 95.0  | 27.4 | 143.4 | 2.8  | 30.0   |
| Tetrachloroethene                     |       | 94.3  | 74.5 | 124.5 | 10.4 | 30.0   |
| Toluene                               |       | 100.2 | 79.8 | 124.5 | 28.9 | 30.0   |
| Trichloroethene                       |       | 99.9  | 79.7 | 124.2 | 1.9  | 30.0   |
| Trichlorofluoromethane                |       | 99.8  | 59.7 | 151.8 | 23.3 | 30.0   |
| Vinyl chloride                        |       | 111.8 | 43.5 | 149.1 | 19.4 | 30.0   |
| o-Xylene                              |       | 89.4  | 80.2 | 131.0 | 3.6  | 30.0   |
| p,m-Xylene                            |       | 96.8  | 79.4 | 132.2 | 18.6 | 30.0   |
| Isopropylbenzene                      |       | 83.9  | 74.4 | 121.5 | 14.2 | 30.0   |
| Cyclohexane                           |       | 90.3  | 10.0 | 169.1 | 2.4  | 30.0   |
| 1,1-Dichloroethane                    |       | 102.9 | 71.5 | 126.2 | 3.3  | 30.0   |
| 1,1-Dichloroethene                    |       | 93.2  | 69.6 | 139.4 | 1.0  | 30.0   |
| Methyl Acetate                        |       | 80.5  | 64.7 | 125.4 | 0.9  | 30.0   |
| Methyl cyclohexane                    |       | 95.1  | 76.6 | 131.3 | 2.2  | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 93.0  | 75.1 | 135.9 | 3.0  | 30.0   |
| 1,2-Dibromoethane                     |       | 103.0 | 70.3 | 133.7 | 20.9 | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 221005B9.4090803N, Parent Sample ID: 221005B9.4090802M

Run in Batch: 221005B9, Run Date: 10/05/2022 22:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------|-------|-------|------|-------|------|--------|
| 1,1,2,2-Tetrachloroethane |       | 84.1  | 79.8 | 126.3 | 17.3 | 30.0   |
| cis-1,3-Dichloropropene   |       | 102.0 | 79.8 | 129.9 | 2.4  | 30.0   |
| trans-1,3-Dichloropropene |       | 99.5  | 74.0 | 131.3 | 13.8 | 30.0   |

## REPORT TO

## CHAIN OF CUSTODY RECORD

**INVOICE TO**

|                                                       |          |               |          |
|-------------------------------------------------------|----------|---------------|----------|
| CONTACT NAME                                          |          | ALEXIS CRISP  |          |
| COMPANY                                               |          | ARCADIS       |          |
| ADDRESS                                               |          |               |          |
| 28550 CABOT DRIVE #500                                |          |               |          |
| CITY                                                  |          | STATE         | ZIP CODE |
| NORT                                                  |          | MI            | 48377    |
| PHONE NO.                                             | CELL NO. | P.O. NO.      |          |
| —                                                     | —        | 3012891.00006 |          |
| E-MAIL ADDRESS                                        |          | QUOTE NO.     |          |
| ALEXIS.CRISP@ARCADIS.COM<br>TIFANY.LINDER@ARCADIS.COM |          | —             |          |

|              |  |                                            |  |                               |          |
|--------------|--|--------------------------------------------|--|-------------------------------|----------|
| CONTACT NAME |  | ACCOUNTS PAYABLE                           |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  | ARCADIS                                    |  |                               |          |
| ADDRESS      |  | 630 PLAZA DRIVE STE # 600                  |  |                               |          |
| CITY         |  | HIGHLANDS RANCH                            |  | STATE                         | ZIP CODE |
|              |  |                                            |  | CO                            | 80129    |
| PHONE NO.    |  | E-MAIL ADDRESS                             |  |                               |          |
|              |  | ACCOUNTSPAYABLE.ADMINISTRATION@ARCADIS.COM |  |                               |          |

|                                                |                                                                                 |
|------------------------------------------------|---------------------------------------------------------------------------------|
| PROJECT NO./NAME<br>RACER ENC / 30112891.00006 | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br>CHRISTINA WEAVER <i>Christina Weaver</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 |

[illegible][illegible]

|                                            |                         |                                             |                   |              |
|--------------------------------------------|-------------------------|---------------------------------------------|-------------------|--------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>Chen H</i> / AREADIS | <input checked="" type="checkbox"/> Sampler | DATE<br>9/19/22   | TIME<br>1300 |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>J. Smith</i>         |                                             | DATE<br>9/29/22   | TIME<br>1310 |
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>J. Smith</i>         |                                             | DATE<br>9/29/2022 | TIME<br>1600 |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>M. Smith</i>         |                                             | DATE<br>9/28/22   | TIME<br>1600 |

|                                            |                                                                         |          |                                    |      |
|--------------------------------------------|-------------------------------------------------------------------------|----------|------------------------------------|------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE                               | TIME |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE                               | TIME |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: TEMP. ON ARRIVAL <u>3.1</u> |      |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |                                    |      |

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

Rev. 1.26.22



# Analytical Laboratory Report

Report ID: S40914.01(01)  
Generated on 10/11/2022

## 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, Ian Drost

## Report produced by

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

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

## Report Summary

Lab Sample ID(s): S40914.01-S40914.06  
Project: 30112891.00006 / RACER PNC  
Collected Date(s): 09/28/2022 - 09/29/2022  
Submitted Date/Time: 09/29/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report



# Analytical Laboratory Report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                 |

## Method Summary

| Method        | Version                                                                |
|---------------|------------------------------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                                          |
| E608.3        | EPA Method 608.3 December 2016                                         |
| N/A           | Not Applicable                                                         |
| SM2320B       | Standard Method 2320 B 2011                                            |
| SM2340C       | Standard Method 2340 C 2011                                            |
| SM2540C       | Standard Method 2540 C 2015                                            |
| SM2540D       | Standard Method 2540 D 2015                                            |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007                           |
| SW5030C/8260C | SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003 |
| SW8260B - SIM | SW 846 Method 8260B Revision 2 December 1996 SIMs                      |



## Analytical Laboratory Report

### Sample Summary (6 samples)

| Sample ID | Sample Tag             | Matrix      | Collected Date/Time |
|-----------|------------------------|-------------|---------------------|
| S40914.01 | MWM16-31_GW-092822     | Groundwater | 09/28/22 16:20      |
| S40914.02 | MWM16-31_GW-092822 MS  | Groundwater | 09/28/22 16:20      |
| S40914.03 | MWM16-31_GW-092822 MSD | Groundwater | 09/28/22 16:20      |
| S40914.04 | tripblank_25           | Water       | 09/28/22 00:01      |
| S40914.05 | MWM1-04_GW-092922      | Groundwater | 09/29/22 09:20      |
| S40914.06 | MWM32-01_GW-092922     | Groundwater | 09/29/22 11:35      |





# Analytical Laboratory Report

Lab Sample ID: S40914.01

Sample Tag: MWM16-31\_GW-092822

Collected Date/Time: 09/28/2022 16:20

Matrix: Groundwater

COC Reference: 154490

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 2.9               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/05/22 15:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 02:47, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | 2            | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40914.01 (continued)  
Sample Tag: MWM16-31\_GW-092822

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 02:47, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40914.02

Sample Tag: MWM16-31\_GW-092822 MS

Collected Date/Time: 09/28/2022 16:20

Matrix: Groundwater

COC Reference: 154490

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 2.9               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/05/22 15:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 23:38, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   | 1     |
| 2-Butanone (MEK)               | 38           | 25 |     | ug/L  | 1        | 78-93-3   | 1     |
| Benzene                        | 52           | 1  |     | ug/L  | 1        | 71-43-2   | 1     |
| Bromodichloromethane           | 48           | 1  |     | ug/L  | 1        | 75-27-4   | 1     |
| Bromoform                      | 46           | 1  |     | ug/L  | 1        | 75-25-2   | 1     |
| Bromomethane                   | 52           | 5  |     | ug/L  | 1        | 74-83-9   | 1     |
| Carbon disulfide               | 47           | 5  |     | ug/L  | 1        | 75-15-0   | 1     |
| Carbon tetrachloride           | 44           | 1  |     | ug/L  | 1        | 56-23-5   | 1     |
| Chlorobenzene                  | 55           | 1  |     | ug/L  | 1        | 108-90-7  | 1     |
| Chloroethane                   | 50           | 5  |     | ug/L  | 1        | 75-00-3   | 1     |
| Chloroform                     | 49           | 1  |     | ug/L  | 1        | 67-66-3   | 1     |
| Chloromethane                  | 49           | 5  |     | ug/L  | 1        | 74-87-3   | 1     |
| 1,2-Dibromo-3-chloropropane    | 44           | 5  |     | ug/L  | 1        | 96-12-8   | 1     |
| 1,2-Dichlorobenzene            | 54           | 1  |     | ug/L  | 1        | 95-50-1   | 1     |
| 1,2-Dichloroethane             | 45           | 1  |     | ug/L  | 1        | 107-06-2  | 1     |
| 1,2-Dichloropropane            | 50           | 1  |     | ug/L  | 1        | 78-87-5   | 1     |
| 1,3-Dichlorobenzene            | 54           | 1  |     | ug/L  | 1        | 541-73-1  | 1     |
| 1,4-Dichlorobenzene            | 54           | 1  |     | ug/L  | 1        | 106-46-7  | 1     |
| cis-1,2-Dichloroethene         | 51           | 1  |     | ug/L  | 1        | 156-59-2  | 1     |
| Dibromochloromethane           | 49           | 5  |     | ug/L  | 1        | 124-48-1  | 1     |
| Dichlorodifluoromethane        | 48           | 5  |     | ug/L  | 1        | 75-71-8   | 1     |
| trans-1,2-Dichloroethene       | 48           | 1  |     | ug/L  | 1        | 156-60-5  | 1     |
| Ethylbenzene                   | 54           | 1  |     | ug/L  | 1        | 100-41-4  | 1     |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  | 1     |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  | 1     |
| tert-Methyl butyl ether (MTBE) | 48           | 5  |     | ug/L  | 1        | 1634-04-4 | 1     |
| Methylene chloride             | 50           | 5  |     | ug/L  | 1        | 75-09-2   | 1     |
| Styrene                        | 53           | 1  |     | ug/L  | 1        | 100-42-5  | 1     |
| 1,1,1-Trichloroethane          | 46           | 1  |     | ug/L  | 1        | 71-55-6   | 1     |
| 1,1,2-Trichloroethane          | 50           | 1  |     | ug/L  | 1        | 79-00-5   | 1     |
| 1,2,4-Trichlorobenzene         | 58           | 5  |     | ug/L  | 1        | 120-82-1  | 1     |
| Tetrachloroethene              | 53           | 1  |     | ug/L  | 1        | 127-18-4  | 1     |
| Toluene                        | 52           | 1  |     | ug/L  | 1        | 108-88-3  | 1     |
| Trichloroethene                | 51           | 1  |     | ug/L  | 1        | 79-01-6   | 1     |
| Trichlorofluoromethane         | 46           | 1  |     | ug/L  | 1        | 75-69-4   | 1     |
| Vinyl chloride                 | 54           | 1  |     | ug/L  | 1        | 75-01-4   | 1     |

1-Spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S40914.02 (continued)  
Sample Tag: MWM16-31\_GW-092822 MS

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 23:38, Analyst: BML (continued)**

| Parameter                             | Result | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------|----|-----|-------|----------|------------|-------|
| o-Xylene                              | 53     | 1  |     | ug/L  | 1        | 95-47-6    | 1     |
| p,m-Xylene*                           | 107    | 2  |     | ug/L  | 1        |            | 1     |
| Isopropylbenzene                      | 54     | 1  |     | ug/L  | 1        | 98-82-8    | 1     |
| Cyclohexane                           | 44     | 1  |     | ug/L  | 1        | 110-82-7   | 1     |
| 1,1-Dichloroethane                    | 48     | 1  |     | ug/L  | 1        | 75-34-3    | 1     |
| 1,1-Dichloroethene                    | 46     | 1  |     | ug/L  | 1        | 75-35-4    | 1     |
| Methyl Acetate                        | 36     | 10 |     | ug/L  | 1        | 79-20-9    | 1     |
| Methyl cyclohexane                    | 50     | 1  |     | ug/L  | 1        | 108-87-2   | 1     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 49     | 1  |     | ug/L  | 1        | 76-13-1    | 1     |
| 1,2-Dibromoethane                     | 52     | 1  |     | ug/L  | 1        | 106-93-4   | 1     |
| 1,1,2,2-Tetrachloroethane             | 49     | 1  |     | ug/L  | 1        | 79-34-5    | 1     |
| cis-1,3-Dichloropropene               | 50     | 1  |     | ug/L  | 1        | 10061-01-5 | 1     |
| trans-1,3-Dichloropropene             | 47     | 1  |     | ug/L  | 1        | 10061-02-6 | 1     |

1-Spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S40914.03

Sample Tag: MWM16-31\_GW-092822 MSD

Collected Date/Time: 09/28/2022 16:20

Matrix: Groundwater

COC Reference: 154490

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 2.9               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/05/22 15:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 00:02, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   | 1     |
| 2-Butanone (MEK)               | 40           | 25 |     | ug/L  | 1        | 78-93-3   | 1     |
| Benzene                        | 49           | 1  |     | ug/L  | 1        | 71-43-2   | 1     |
| Bromodichloromethane           | 46           | 1  |     | ug/L  | 1        | 75-27-4   | 1     |
| Bromoform                      | 44           | 1  |     | ug/L  | 1        | 75-25-2   | 1     |
| Bromomethane                   | 49           | 5  |     | ug/L  | 1        | 74-83-9   | 1     |
| Carbon disulfide               | 44           | 5  |     | ug/L  | 1        | 75-15-0   | 1     |
| Carbon tetrachloride           | 42           | 1  |     | ug/L  | 1        | 56-23-5   | 1     |
| Chlorobenzene                  | 51           | 1  |     | ug/L  | 1        | 108-90-7  | 1     |
| Chloroethane                   | 47           | 5  |     | ug/L  | 1        | 75-00-3   | 1     |
| Chloroform                     | 47           | 1  |     | ug/L  | 1        | 67-66-3   | 1     |
| Chloromethane                  | 46           | 5  |     | ug/L  | 1        | 74-87-3   | 1     |
| 1,2-Dibromo-3-chloropropane    | 43           | 5  |     | ug/L  | 1        | 96-12-8   | 1     |
| 1,2-Dichlorobenzene            | 49           | 1  |     | ug/L  | 1        | 95-50-1   | 1     |
| 1,2-Dichloroethane             | 43           | 1  |     | ug/L  | 1        | 107-06-2  | 1     |
| 1,2-Dichloropropane            | 47           | 1  |     | ug/L  | 1        | 78-87-5   | 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     |
| cis-1,2-Dichloroethene         | 48           | 1  |     | ug/L  | 1        | 156-59-2  | 1     |
| Dibromochloromethane           | 46           | 5  |     | ug/L  | 1        | 124-48-1  | 1     |
| Dichlorodifluoromethane        | 46           | 5  |     | ug/L  | 1        | 75-71-8   | 1     |
| trans-1,2-Dichloroethene       | 46           | 1  |     | ug/L  | 1        | 156-60-5  | 1     |
| Ethylbenzene                   | 50           | 1  |     | ug/L  | 1        | 100-41-4  | 1     |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  | 1     |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  | 1     |
| tert-Methyl butyl ether (MTBE) | 47           | 5  |     | ug/L  | 1        | 1634-04-4 | 1     |
| Methylene chloride             | 47           | 5  |     | ug/L  | 1        | 75-09-2   | 1     |
| Styrene                        | 50           | 1  |     | ug/L  | 1        | 100-42-5  | 1     |
| 1,1,1-Trichloroethane          | 43           | 1  |     | ug/L  | 1        | 71-55-6   | 1     |
| 1,1,2-Trichloroethane          | 48           | 1  |     | ug/L  | 1        | 79-00-5   | 1     |
| 1,2,4-Trichlorobenzene         | 53           | 5  |     | ug/L  | 1        | 120-82-1  | 1     |
| Tetrachloroethene              | 50           | 1  |     | ug/L  | 1        | 127-18-4  | 1     |
| Toluene                        | 49           | 1  |     | ug/L  | 1        | 108-88-3  | 1     |
| Trichloroethene                | 48           | 1  |     | ug/L  | 1        | 79-01-6   | 1     |
| Trichlorofluoromethane         | 44           | 1  |     | ug/L  | 1        | 75-69-4   | 1     |
| Vinyl chloride                 | 52           | 1  |     | ug/L  | 1        | 75-01-4   | 1     |

1-Spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S40914.03 (continued)  
Sample Tag: MWM16-31\_GW-092822 MSD

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 00:02, Analyst: BML (continued)**

| Parameter                             | Result | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------|----|-----|-------|----------|------------|-------|
| o-Xylene                              | 50     | 1  |     | ug/L  | 1        | 95-47-6    | 1     |
| p,m-Xylene*                           | 100    | 2  |     | ug/L  | 1        |            | 1     |
| Isopropylbenzene                      | 51     | 1  |     | ug/L  | 1        | 98-82-8    | 1     |
| Cyclohexane                           | 41     | 1  |     | ug/L  | 1        | 110-82-7   | 1     |
| 1,1-Dichloroethane                    | 46     | 1  |     | ug/L  | 1        | 75-34-3    | 1     |
| 1,1-Dichloroethene                    | 44     | 1  |     | ug/L  | 1        | 75-35-4    | 1     |
| Methyl Acetate                        | 37     | 10 |     | ug/L  | 1        | 79-20-9    | 1     |
| Methyl cyclohexane                    | 47     | 1  |     | ug/L  | 1        | 108-87-2   | 1     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 45     | 1  |     | ug/L  | 1        | 76-13-1    | 1     |
| 1,2-Dibromoethane                     | 49     | 1  |     | ug/L  | 1        | 106-93-4   | 1     |
| 1,1,2,2-Tetrachloroethane             | 48     | 1  |     | ug/L  | 1        | 79-34-5    | 1     |
| cis-1,3-Dichloropropene               | 46     | 1  |     | ug/L  | 1        | 10061-01-5 | 1     |
| trans-1,3-Dichloropropene             | 44     | 1  |     | ug/L  | 1        | 10061-02-6 | 1     |

1-Spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S40914.04

Sample Tag: tripblank\_25

Collected Date/Time: 09/28/2022 00:01

Matrix: Water

COC Reference: 154490

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 2.9               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/05/22 15:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 01:36, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40914.04 (continued)

Sample Tag: tripblank\_25

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 01:36, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |





# Analytical Laboratory Report

Lab Sample ID: S40914.05

Sample Tag: MWM1-04\_GW-092922

Collected Date/Time: 09/29/2022 09:20

Matrix: Groundwater

COC Reference: 154490

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 2.9               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 2.9               | IR            |
| 1 | 500ml Plastic | None            | Yes           | 2.9               | IR            |
| 1 | 1L Plastic    | None            | Yes           | 2.9               | IR            |
| 2 | 1L Amber      | None            | Yes           | 2.9               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| pH check for VOCs* | <2        | N/A     | 10/05/22 15:00 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 10/04/22 15:00 | TAW     |       |

## Inorganics

Method: SM2320B, Run Date: 10/11/22 11:32, Analyst: JKB

| Parameter           | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|---------------------|--------|----|-----|-------|----------|------|-------|
| Alkalinity as CaCO3 | 120    | 2  |     | mg/L  | 2        |      |       |

Method: SM2340C, Run Date: 10/11/22 13:46, Analyst: JKB

| Parameter         | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|-------------------|--------|----|-----|-------|----------|------|-------|
| Hardness as CaCO3 | 183    | 10 |     | mg/L  | 10       |      |       |

Method: SM2540C, Run Date: 09/30/22 11:15, Analyst: SSM

| Parameter              | Result | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------|----|-----|-------|----------|------|-------|
| Total Dissolved Solids | 416    | 50 |     | mg/L  | 2        |      |       |

Method: SM2540D, Run Date: 10/03/22 19:00, Analyst: SSM

| Parameter              | Result       | RL | MDL | Units | Dilution | CAS# | Flags |
|------------------------|--------------|----|-----|-------|----------|------|-------|
| Total Suspended Solids | Not detected | 3  |     | mg/L  | 1        |      |       |

## Metals

Method: E200.8, Run Date: 10/05/22 12:35, Analyst: CCM

| Parameter | Result       | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|-------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005 |     | mg/L  | 5        | 7440-36-0 |       |
| Iron      | 0.03         | 0.02  |     | mg/L  | 5        | 7439-89-6 |       |
| Vanadium  | 0.007        | 0.005 |     | mg/L  | 5        | 7440-62-2 |       |

Method: E200.8, Run Date: 10/05/22 16:08, Analyst: CCM

| Parameter | Result | RL   | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|------|-----|-------|----------|-----------|-------|
| Calcium*  | 71.5   | 1.0  |     | mg/L  | 5        | 7440-70-2 |       |
| Magnesium | 0.90   | 0.50 |     | mg/L  | 5        | 7439-95-4 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/05/22 16:39, Analyst: JANB

| Parameter | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-----------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1016  | Not detected | 0.1 |     | ug/L  | 1        | 12674-11-2 |       |
| PCB-1221  | Not detected | 0.1 |     | ug/L  | 1        | 11104-28-2 |       |



# Analytical Laboratory Report

Lab Sample ID: S40914.05 (continued)

Sample Tag: MWM1-04\_GW-092922

**PCB, Method: E608.3, Run Date: 10/05/22 16:39, Analyst: JANB (continued)**

| Parameter   | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-------------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1232    | Not detected | 0.1 |     | ug/L  | 1        | 11141-16-5 |       |
| PCB-1242    | 0.2          | 0.1 |     | ug/L  | 1        | 53469-21-9 |       |
| PCB-1248    | Not detected | 0.1 |     | ug/L  | 1        | 12672-29-6 |       |
| PCB-1254    | Not detected | 0.1 |     | ug/L  | 1        | 11097-69-1 |       |
| PCB-1260    | Not detected | 0.1 |     | ug/L  | 1        | 11096-82-5 |       |
| PCB, Total* | 0.2          | 0.1 |     | ug/L  | 1        | 1336-36-3  |       |

**Organics - Volatiles**

**Method: SW8260B - SIM, Run Date: 10/08/22 00:30, Analyst: KAG**

| Parameter    | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | Not detected | 1  |     | ug/L  | 1        | 123-91-1 |       |

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 03:10, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |



# Analytical Laboratory Report

Lab Sample ID: S40914.05 (continued)  
Sample Tag: MWM1-04\_GW-092922

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 03:10, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40914.06

Sample Tag: MWM32-01\_GW-092922

Collected Date/Time: 09/29/2022 11:35

Matrix: Groundwater

COC Reference: 154490

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 2.9               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/05/22 15:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 03:33, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40914.06 (continued)

Sample Tag: MWM32-01\_GW-092922

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/05/22 03:33, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40914

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / RACER PNC

Submitted:09/29/2022 16:00 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 2.9 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_

## Merit Laboratories Bottle Preservation Check

Lab Set ID: S40914      Submitted: 09/29/2022 16:00

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / RACER PNC

Initial Preservation Check: 09/29/2022 17:17 MMC

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S40914.05 | 125ml Plastic HNO3    | <2        |        |          |       |

## REPORT TO

|                                                        |  |  |  |              |  |       |  |                     |  |  |  |  |  |  |  |
|--------------------------------------------------------|--|--|--|--------------|--|-------|--|---------------------|--|--|--|--|--|--|--|
| CONTACT NAME                                           |  |  |  | Alexis Crisp |  |       |  |                     |  |  |  |  |  |  |  |
| COMPANY                                                |  |  |  | Arcadis      |  |       |  |                     |  |  |  |  |  |  |  |
| ADDRESS                                                |  |  |  |              |  |       |  | 28550 Cabot Dr #500 |  |  |  |  |  |  |  |
| CITY                                                   |  |  |  |              |  | STATE |  | ZIP CODE            |  |  |  |  |  |  |  |
| NOVI                                                   |  |  |  |              |  | MI    |  | 48317               |  |  |  |  |  |  |  |
| PHONE NO.                                              |  |  |  | CELL NO.     |  |       |  | P.O. NO.            |  |  |  |  |  |  |  |
|                                                        |  |  |  |              |  |       |  | 30112891.00006      |  |  |  |  |  |  |  |
| E-MAIL ADDRESS                                         |  |  |  |              |  |       |  | QUOTE NO.           |  |  |  |  |  |  |  |
| tiffany.linder@arcadis.com<br>Alexis.Crisp@arcadis.com |  |  |  |              |  |       |  | 201289100006        |  |  |  |  |  |  |  |

## CHAIN OF CUSTODY RECORD

|                                      |                                                                   |                               |                       |
|--------------------------------------|-------------------------------------------------------------------|-------------------------------|-----------------------|
| CONTACT NAME <b>Accounts Payable</b> |                                                                   | <input type="checkbox"/> SAME |                       |
| COMPANY <b>Arcadis</b>               |                                                                   |                               |                       |
| ADDRESS <b>630 Plaza Dr #600</b>     |                                                                   |                               |                       |
| CITY <b>Highlands Ranch</b>          |                                                                   | STATE <b>CO</b>               | ZIP CODE <b>80129</b> |
| PHONE NO.                            | E-MAIL ADDRESS <b>accounts.payable.administration@arcadis.com</b> |                               |                       |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| PROJECT NO./NAME<br>30112891.00006 / Racer PNC                                                                                                                                                                                                    | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br>Sommer Guy / Sommer Guy |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

## Certifications

☐ OHIO VAP    ☐ Drinking Water☐ DoD ☐ NPDES

## Project Locations

☐ Detroit      ☐ New York☐ Other

### Special Instructions

[illegible]

|                        |                   |                |                |         |       |
|------------------------|-------------------|----------------|----------------|---------|-------|
| RELINQUISHED BY:       | <i>Summer Day</i> | <i>Arcadia</i> | <i>Sampler</i> | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                   |                |                | 9/29/22 | 13:00 |
| RECEIVED BY:           | <i>J. Smith</i>   |                |                | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                   |                |                | 9/29/22 | 13:00 |
| RELINQUISHED BY:       | <i>J. Smith</i>   |                |                | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                   |                |                | 9/29/22 | 16:00 |
| RECEIVED BY:           | <i>M. Chiles</i>  |                |                | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                   |                |                | 9/29/22 | 16:00 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>2.9</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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

Rev. 1.26.22





# Quality Control Report

Report ID: QC-S40914-01  
Generated on 10/12/2022

## Report to

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

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

Phone: 810-225-1909 FAX:

## Report Summary

Lab Sample ID(s): S40914.01-S40914.06  
Project: 30112891.00006 / RACER PNC  
Submitted Date/Time: 09/29/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-7)  
Prep Batch Summary (Page 8)  
Surrogates per Lab Sample (Pages 9-12)  
Surrogates per QC Sample (Pages 13-15)  
Batch QC Results (Pages 16-29)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S40914.01**

Sample Tag: MWM16-31\_GW-092822

Collected Date/Time: 09/28/2022 16:20

Matrix: Groundwater

COC Reference: 154490

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 02:47 | 221004A7 | VF221004W1 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40914.02**

Sample Tag: MWM16-31\_GW-092822 MS

Collected Date/Time: 09/28/2022 16:20

Matrix: Groundwater

COC Reference: 154490

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/04/22 23:38 | 221004A7 | VF221004W1 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40914.03**

Sample Tag: MWM16-31\_GW-092822 MSD

Collected Date/Time: 09/28/2022 16:20

Matrix: Groundwater

COC Reference: 154490

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 00:02 | 221004A7 | VF221004W1 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

Lab Sample ID: S40914.04

Sample Tag: tripblank\_25

Collected Date/Time: 09/28/2022 00:01

Matrix: Water

COC Reference: 154490

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 01:36 | 221004A7 | VF221004W1 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40914.05**

Sample Tag: MWM1-04\_GW-092922

Collected Date/Time: 09/29/2022 09:20

Matrix: Groundwater

COC Reference: 154490

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types           |
|------------------------------------------|---------------|----------------|--------------|--------------|------|--------------------|
| <b><i>Inorganics</i></b>                 |               |                |              |              |      |                    |
| Alkalinity as CaCO3                      | SM2320B       | 10/11/22 11:32 | ALK221011-W1 | ALK221011-W1 | No   | BLK/LCS/MS/DUP     |
| Hardness as CaCO3                        | SM2340C       | 10/11/22 13:46 | HRD221011-W1 | HRD221011-W1 | No   | BLK/LCS/MS/DUP     |
| Total Dissolved Solids                   | SM2540C       | 09/30/22 11:15 | TDS220930    | TDS220930    | No   | BLK/LCS/DUP        |
| Total Suspended Solids                   | SM2540D       | 10/03/22 19:00 | TSS221003    | TSS221003    | No   | BLK/LCS/DUP        |
| <b><i>Metals</i></b>                     |               |                |              |              |      |                    |
| Antimony                                 | E200.8        | 10/05/22 12:35 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Calcium                                  | E200.8        | 10/05/22 16:08 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Iron                                     | E200.8        | 10/05/22 12:35 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Magnesium                                | E200.8        | 10/05/22 16:08 | MT4-22-1005C | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| Vanadium                                 | E200.8        | 10/05/22 12:35 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD     |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                    |
| PCB                                      | E608.3        | 10/05/22 16:39 | E221005      | PA221004W1   | Yes  | BLK/LCS/LCSD       |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                    |
| 1,4-Dioxane                              | SW8260B - SIM | 10/08/22 00:30 | 221007B9     | VS221007W1   | Yes  | BLK/LCS/LCSD       |
| Volatile Organics - Arcadis              | SW5030C/8260C | 10/05/22 03:10 | 221004A7     | VF221004W1   | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40914.06**

Sample Tag: MWM32-01\_GW-092922

Collected Date/Time: 09/29/2022 11:35

Matrix: Groundwater

COC Reference: 154490

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 03:33 | 221004A7 | VF221004W1 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Prep Batch Summary

### Inorganics, Prep Batch ID: ALK221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

| Sample ID | Analysis            | Method  | Run Date/Time  | Batch ID     |
|-----------|---------------------|---------|----------------|--------------|
| S40914.05 | Alkalinity as CaCO3 | SM2320B | 10/11/22 11:32 | ALK221011-W1 |

### Inorganics, Prep Batch ID: HRD221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

| Sample ID | Analysis          | Method  | Run Date/Time  | Batch ID     |
|-----------|-------------------|---------|----------------|--------------|
| S40914.05 | Hardness as CaCO3 | SM2340C | 10/11/22 13:46 | HRD221011-W1 |

### Inorganics, Prep Batch ID: TDS220930

Surrogates: No, QC Types: BLK/LCS/DUP

| Sample ID | Analysis               | Method  | Run Date/Time  | Batch ID  |
|-----------|------------------------|---------|----------------|-----------|
| S40914.05 | Total Dissolved Solids | SM2540C | 09/30/22 11:15 | TDS220930 |

### Inorganics, Prep Batch ID: TSS221003

Surrogates: No, QC Types: BLK/LCS/DUP

| Sample ID | Analysis               | Method  | Run Date/Time  | Batch ID  |
|-----------|------------------------|---------|----------------|-----------|
| S40914.05 | Total Suspended Solids | SM2540D | 10/03/22 19:00 | TSS221003 |

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40914.05 | Antimony  | E200.8 | 10/05/22 12:35 | MT4-22-1005A |
| S40914.05 | Calcium   | E200.8 | 10/05/22 16:08 | MT4-22-1005C |
| S40914.05 | Iron      | E200.8 | 10/05/22 12:35 | MT4-22-1005A |
| S40914.05 | Magnesium | E200.8 | 10/05/22 16:08 | MT4-22-1005C |
| S40914.05 | Vanadium  | E200.8 | 10/05/22 12:35 | MT4-22-1005A |

### Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S40914.05 | PCB      | E608.3 | 10/05/22 16:39 | E221005  |

### Organics - Volatiles, Prep Batch ID: VF221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40914.01 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 02:47 | 221004A7 |
| S40914.02 | Volatile Organics - Arcadis | SW5030C/8260C | 10/04/22 23:38 | 221004A7 |
| S40914.03 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 00:02 | 221004A7 |
| S40914.04 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 01:36 | 221004A7 |
| S40914.05 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 03:10 | 221004A7 |
| S40914.06 | Volatile Organics - Arcadis | SW5030C/8260C | 10/05/22 03:33 | 221004A7 |

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis    | Method        | Run Date/Time  | Batch ID |
|-----------|-------------|---------------|----------------|----------|
| S40914.05 | 1,4-Dioxane | SW8260B - SIM | 10/08/22 00:30 | 221007B9 |



## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40914.01**

Sample Tag: MWM16-31\_GW-092822

Collected Date/Time: 09/28/2022 16:20

Matrix: Groundwater

COC Reference: 154490

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221004A7, Run Date: 10/05/2022 02:47, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>88.5</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.3</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40914.04

Sample Tag: tripblank\_25

Collected Date/Time: 09/28/2022 00:01

Matrix: Water

COC Reference: 154490

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221004A7, Run Date: 10/05/2022 01:36, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 111.0 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 93.3  | 72.0 | 125.0 |
| Toluene-D8            |       | 99.5  | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40914.05**

Sample Tag: MWM1-04\_GW-092922

Collected Date/Time: 09/29/2022 09:20

Matrix: Groundwater

COC Reference: 154490

**Organics - PCBs/Pesticides, Analysis: PCB**

Run in Batch: E221005, Run Date: 10/05/2022 16:39, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>70.60</b> | 34.1 | 137.1 |
| DCBP      |       | <b>49.30</b> | 30.0 | 138.6 |

**Organics - Volatiles, Analysis: Volatile Organics - Arcadis**

Run in Batch: 221004A7, Run Date: 10/05/2022 03:10, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>109.4</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>86.5</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.1</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40914.06**

Sample Tag: MWM32-01\_GW-092922

Collected Date/Time: 09/29/2022 11:35

Matrix: Groundwater

COC Reference: 154490

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221004A7, Run Date: 10/05/2022 03:33, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>110.2</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>88.4</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.3</b> | 89.0 | 112.0 |

# QC Report - Surrogates per QC Sample

## Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22100503.sblk-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 81.20 | 34.1 | 137.1 |
| DCBP      |       | 75.50 | 30.0 | 138.6 |

### Blank (BLK)

Lab Sample ID: b22100504.sblk-w.01

Run in Batch: B221005, Run Date: 10/05/2022 10:12, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec   | LCL  | UCL   |
|-----------|-------|--------|------|-------|
| TCX       |       | 104.40 | 34.1 | 137.1 |
| DCBP      |       | 96.60  | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:53, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 62.20 | 34.1 | 137.1 |
| DCBP      |       | 66.60 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: b22100511.slcs-w.01

Run in Batch: B221005, Run Date: 10/05/2022 13:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 70.70 | 34.1 | 137.1 |
| DCBP      |       | 78.50 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100505.slcs-w.01d, Parent Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 11:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 64.00 | 34.1 | 137.1 |
| DCBP      |       | 66.80 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: b22100512.slcs-w.01d, Parent Sample ID: b22100511.slcs-w.01

Run in Batch: B221005, Run Date: 10/05/2022 13:28, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 83.20 | 34.1 | 137.1 |
| DCBP      |       | 90.90 | 30.0 | 138.6 |

# QC Report - Surrogates per QC Sample

## Organics - Volatiles, Prep Batch ID: VF221004W1

QC Types: BLK/LCS/LCSD/MS/MSD

### Blank (BLK)

Lab Sample ID: 221004A7.BLKW04A

Run in Batch: 221004A7, Run Date: 10/05/2022 01:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 108.9 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 84.3  | 72.0 | 125.0 |
| Toluene-D8            |       | 100.3 | 89.0 | 112.0 |

### Laboratory Control Sample (LCS)

Lab Sample ID: 221004A7.LCSW04A

Run in Batch: 221004A7, Run Date: 10/04/2022 22:51, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 109.3 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 94.3  | 72.0 | 125.0 |
| Toluene-D8            |       | 100.4 | 89.0 | 112.0 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221004A7.LCSDW04A, Parent Sample ID: 221004A7.LCSW04A

Run in Batch: 221004A7, Run Date: 10/04/2022 23:15, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 109.2 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 95.5  | 72.0 | 125.0 |
| Toluene-D8            |       | 99.4  | 89.0 | 112.0 |

### Matrix Spike (MS)

Lab Sample ID: 221004A7.4091402M, Parent Sample ID: S40914.01

Run in Batch: 221004A7, Run Date: 10/04/2022 23:38, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 106.9 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 83.4  | 72.0 | 125.0 |
| Toluene-D8            |       | 99.7  | 89.0 | 112.0 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221004A7.4091403N, Parent Sample ID: 221004A7.4091402M

Run in Batch: 221004A7, Run Date: 10/05/2022 00:02, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 108.5 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 89.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 100.8 | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VS221007W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec | LCL | UCL |
|-----------|-------|------|-----|-----|
|-----------|-------|------|-----|-----|

No Surrogates

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec | LCL | UCL |
|-----------|-------|------|-----|-----|
|-----------|-------|------|-----|-----|

No Surrogates

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec | LCL | UCL |
|-----------|-------|------|-----|-----|
|-----------|-------|------|-----|-----|

No Surrogates

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: ALK221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

#### Blank (BLK)

Lab Sample ID: ALK221011-W1.LRB1

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:00, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | Conc | RDL | Units |
|---------------------|-------|------|-----|-------|
| Alkalinity as CaCO3 |       | ND   | 1   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: ALK221011-W1.LCS1

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:06, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | % Rec | LCL | UCL |
|---------------------|-------|-------|-----|-----|
| Alkalinity as CaCO3 |       | 98    | 90  | 110 |

#### Matrix Spike (MS)

Lab Sample ID: ALK221011-W1.MS1, Parent Sample ID: S40793.02

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:14, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte             | Flags | % Rec | LCL | UCL |
|---------------------|-------|-------|-----|-----|
| Alkalinity as CaCO3 |       | 100   | 80  | 120 |

#### Duplicate (DUP)

Lab Sample ID: ALK221011-W1.DP1, Parent Sample ID: S40793.01

Run in Batch: ALK221011-W1, Run Date: 10/11/2022 11:10, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 2

| Analyte             | Flags | RPD | RPD CL |
|---------------------|-------|-----|--------|
| Alkalinity as CaCO3 |       | 4   | 15     |



## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: HRD221011-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

#### Blank (BLK)

Lab Sample ID: HRD221011-W1.LRB1

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:00, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | Conc | RDL | Units |
|-------------------|-------|------|-----|-------|
| Hardness as CaCO3 |       | ND   | 2   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HRD221011-W1.LCS1

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:06, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | % Rec | LCL | UCL |
|-------------------|-------|-------|-----|-----|
| Hardness as CaCO3 |       | 101   | 90  | 110 |

#### Matrix Spike (MS)

Lab Sample ID: HRD221011-W1.MS1, Parent Sample ID: S40775.02

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:14, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 1

| Analyte           | Flags | % Rec | LCL | UCL |
|-------------------|-------|-------|-----|-----|
| Hardness as CaCO3 |       | 102   | 80  | 120 |

#### Duplicate (DUP)

Lab Sample ID: HRD221011-W1.DP1, Parent Sample ID: S41042.07

Run in Batch: HRD221011-W1, Run Date: 10/11/2022 13:10, Prep Date: 10/11/2022, Matrix: Liquid, Dilution: 10

| Analyte           | Flags | RPD | RPD CL |
|-------------------|-------|-----|--------|
| Hardness as CaCO3 |       | 1   | 20     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: TDS220930

Surrogates: No, QC Types: BLK/LCS/DUP

#### Blank (BLK)

Lab Sample ID: TDS220930.LRB1

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | Conc | RDL | Units |
|------------------------|-------|------|-----|-------|
| Total Dissolved Solids |       | ND   | 50  | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: TDS220930.LCS1

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 4

| Analyte                | Flags | % Rec | LCL | UCL |
|------------------------|-------|-------|-----|-----|
| Total Dissolved Solids |       | 100.6 | 90  | 110 |

#### Duplicate (DUP)

Lab Sample ID: TDS220930.DP1, Parent Sample ID: S40775.04

Run in Batch: TDS220930, Run Date: 09/30/2022 11:15, Prep Date: 09/30/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | RPD | RPD CL |
|------------------------|-------|-----|--------|
| Total Dissolved Solids |       | 0.9 | 10     |

## QC Report - Batch QC Results

### Inorganics, Prep Batch ID: TSS221003

Surrogates: No, QC Types: BLK/LCS/DUP

#### Blank (BLK)

Lab Sample ID: TSS221003.LRB1

Run in Batch: TSS221003, Run Date: 10/03/2022 19:00, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 1

| Analyte                | Flags | Conc | RDL | Units |
|------------------------|-------|------|-----|-------|
| Total Suspended Solids |       | ND   | 3   | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: TSS221003.LCS1

Run in Batch: TSS221003, Run Date: 10/03/2022 19:00, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 10

| Analyte                | Flags | % Rec | LCL  | UCL |
|------------------------|-------|-------|------|-----|
| Total Suspended Solids |       | 92.8  | 78.8 | 113 |

#### Duplicate (DUP)

Lab Sample ID: TSS221003.DP1, Parent Sample ID: S40840.01

Run in Batch: TSS221003, Run Date: 10/03/2022 19:00, Prep Date: 10/03/2022, Matrix: Liquid, Dilution: 2

| Analyte                | Flags | RPD | RPD CL |
|------------------------|-------|-----|--------|
| Total Suspended Solids |       | 0.0 | 10     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-1005A.021.LRB

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:36, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte  | Flags | Conc | RDL   | Units |
|----------|-------|------|-------|-------|
| Antimony |       | ND   | 0.001 | mg/L  |
| Iron     |       | ND   | 0.004 | mg/L  |
| Vanadium |       | ND   | 0.001 | mg/L  |

#### Blank (BLK)

Lab Sample ID: MT4-22-1005C.015.LRB

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 15:50, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL  | Units |
|-----------|-------|------|------|-------|
| Calcium   |       | ND   | 0.05 | mg/L  |
| Magnesium |       | ND   | 0.05 | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005A.019.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:33, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte  | Flags | % Rec | LCL | UCL |
|----------|-------|-------|-----|-----|
| Antimony |       | 97    | 85  | 115 |
| Iron     |       | 107   | 85  | 115 |
| Vanadium |       | 101   | 85  | 115 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005C.014.LCS

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 15:49, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 95    | 85  | 115 |
| Magnesium |       | 98    | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.042.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:22, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte  | Flags | % Rec | LCL | UCL |
|----------|-------|-------|-----|-----|
| Antimony |       | 97    | 75  | 125 |
| Iron     |       | 85    | 75  | 125 |
| Vanadium |       | 103   | 75  | 125 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.062.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:58, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte  | Flags | % Rec | LCL | UCL |
|----------|-------|-------|-----|-----|
| Antimony |       | 103   | 75  | 125 |
| Iron     |       | 107   | 75  | 125 |
| Vanadium |       | 103   | 75  | 125 |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005C.030.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:03, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 88    | 75  | 125 |
| Magnesium |       | 93    | 75  | 125 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005C.045.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:17, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Calcium   |       | 117   | 75  | 125 |
| Magnesium |       | 103   | 75  | 125 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.043.MSD, Parent Sample ID: MT4-22-1005A.042.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:23, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte  | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|----------|-------|-------|-----|-----|-----|--------|
| Antimony |       | 99    | 75  | 125 | 2   | 20     |
| Iron     |       | 92    | 75  | 125 | 2   | 20     |
| Vanadium |       | 104   | 75  | 125 | 1   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte  | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|----------|-------|-------|-----|-----|-----|--------|
| Antimony |       | 100   | 75  | 125 | 2   | 20     |
| Iron     |       | 105   | 75  | 125 | 2   | 20     |
| Vanadium |       | 102   | 75  | 125 | 1   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005C.031.MSD, Parent Sample ID: MT4-22-1005C.030.MS

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:04, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Calcium   |       | 81    | 75  | 125 | 1   | 20     |
| Magnesium |       | 96    | 75  | 125 | 1   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005C.046.MSD, Parent Sample ID: MT4-22-1005C.045.MS

Run in Batch: MT4-22-1005C, Run Date: 10/05/2022 16:18, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Calcium   |       | 103   | 75  | 125 | 2   | 20     |
| Magnesium |       | 103   | 75  | 125 | 0   | 20     |

## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22100503.sblk-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:53, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 70.22 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100505.slcs-w.01d, Parent Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 11:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------|-------|-------|------|-------|------|--------|
| PCB-1016/1260 |       | 79.24 | 50.0 | 125.0 | 12.1 | 20.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Blank (BLK)

Lab Sample ID: 221004A7.BLKW04A

Run in Batch: 221004A7, Run Date: 10/05/2022 01:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

**Organics - Volatiles, Prep Batch ID: VF221004W1 (continued)**

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

**Blank (BLK) (continued)**

Lab Sample ID: 221004A7.BLKW04A

Run in Batch: 221004A7, Run Date: 10/05/2022 01:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

**Laboratory Control Sample (LCS)**

Lab Sample ID: 221004A7.LCSW04A

Run in Batch: 221004A7, Run Date: 10/04/2022 22:51, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 95.4  | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 100.3 | 44.0 | 134.4 |
| Benzene                        |       | 105.1 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 99.4  | 80.4 | 128.2 |
| Bromoform                      |       | 99.4  | 69.4 | 128.0 |
| Bromomethane                   |       | 101.4 | 56.8 | 151.3 |
| Carbon disulfide               |       | 89.2  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 87.1  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 110.1 | 79.2 | 122.7 |
| Chloroethane                   |       | 96.0  | 53.4 | 149.4 |
| Chloroform                     |       | 102.1 | 78.4 | 124.0 |
| Chloromethane                  |       | 93.9  | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 99.4  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 105.9 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 95.7  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 103.3 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 104.2 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 103.9 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 104.7 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 101.8 | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 80.0  | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 96.7  | 73.6 | 129.3 |
| Ethylbenzene                   |       | 106.9 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 99.5  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 100.7 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 104.4 | 73.2 | 122.4 |
| Methylene chloride             |       | 103.1 | 73.3 | 121.1 |
| Styrene                        |       | 107.9 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 91.0  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 107.8 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 113.9 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 106.6 | 74.5 | 124.5 |
| Toluene                        |       | 104.9 | 79.8 | 124.5 |
| Trichloroethene                |       | 102.9 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 88.7  | 59.7 | 151.8 |
| Vinyl chloride                 |       | 98.1  | 43.5 | 149.1 |
| o-Xylene                       |       | 106.8 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 106.9 | 79.4 | 132.2 |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221004W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221004A7.LCSW04A

Run in Batch: 221004A7, Run Date: 10/04/2022 22:51, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 108.0 | 74.4 | 121.5 |
| Cyclohexane                           |       | 84.9  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 98.6  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 91.5  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 98.3  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 96.7  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 93.2  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 107.9 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 108.6 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 101.2 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 98.5  | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221004A7.LCSDW04A, Parent Sample ID: 221004A7.LCSW04A

Run in Batch: 221004A7, Run Date: 10/04/2022 23:15, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|--------------------------------|-------|-------|------|-------|------|--------|
| Acetone                        |       | 92.0  | 29.9 | 161.5 | 3.6  | 30.0   |
| 2-Butanone (MEK)               |       | 88.0  | 44.0 | 134.4 | 13.0 | 30.0   |
| Benzene                        |       | 110.3 | 79.9 | 124.9 | 4.9  | 30.0   |
| Bromodichloromethane           |       | 104.4 | 80.4 | 128.2 | 4.9  | 30.0   |
| Bromoform                      |       | 99.6  | 69.4 | 128.0 | 0.3  | 30.0   |
| Bromomethane                   |       | 106.8 | 56.8 | 151.3 | 5.2  | 30.0   |
| Carbon disulfide               |       | 96.2  | 63.8 | 137.4 | 7.6  | 30.0   |
| Carbon tetrachloride           |       | 92.4  | 72.6 | 133.0 | 5.9  | 30.0   |
| Chlorobenzene                  |       | 114.9 | 79.2 | 122.7 | 4.2  | 30.0   |
| Chloroethane                   |       | 102.7 | 53.4 | 149.4 | 6.7  | 30.0   |
| Chloroform                     |       | 107.3 | 78.4 | 124.0 | 5.0  | 30.0   |
| Chloromethane                  |       | 100.7 | 23.8 | 166.5 | 6.9  | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 94.5  | 21.2 | 189.4 | 5.0  | 30.0   |
| 1,2-Dichlorobenzene            |       | 110.6 | 10.0 | 166.2 | 4.3  | 30.0   |
| 1,2-Dichloroethane             |       | 97.9  | 76.0 | 126.3 | 2.3  | 30.0   |
| 1,2-Dichloropropane            |       | 107.6 | 78.6 | 126.4 | 4.2  | 30.0   |
| 1,3-Dichlorobenzene            |       | 108.2 | 77.0 | 131.3 | 3.7  | 30.0   |
| 1,4-Dichlorobenzene            |       | 109.1 | 20.7 | 137.7 | 5.0  | 30.0   |
| cis-1,2-Dichloroethene         |       | 109.6 | 76.6 | 122.1 | 4.6  | 30.0   |
| Dibromochloromethane           |       | 104.4 | 74.6 | 127.2 | 2.6  | 30.0   |
| Dichlorodifluoromethane        |       | 87.9  | 10.0 | 222.8 | 9.4  | 30.0   |
| trans-1,2-Dichloroethene       |       | 101.9 | 73.6 | 129.3 | 5.3  | 30.0   |
| Ethylbenzene                   |       | 112.0 | 79.5 | 129.1 | 4.6  | 30.0   |
| 2-Hexanone                     |       | 90.7  | 55.4 | 136.9 | 9.2  | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 94.6  | 71.6 | 125.2 | 6.2  | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 105.0 | 73.2 | 122.4 | 0.6  | 30.0   |
| Methylene chloride             |       | 108.0 | 73.3 | 121.1 | 4.7  | 30.0   |
| Styrene                        |       | 112.5 | 69.5 | 126.7 | 4.2  | 30.0   |
| 1,1,1-Trichloroethane          |       | 96.5  | 79.4 | 130.9 | 5.9  | 30.0   |
| 1,1,2-Trichloroethane          |       | 109.3 | 78.7 | 123.1 | 1.4  | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221004W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 221004A7.LCSDW04A, Parent Sample ID: 221004A7.LCSW04A

Run in Batch: 221004A7, Run Date: 10/04/2022 23:15, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 119.8 | 27.4 | 143.4 | 5.0 | 30.0   |
| Tetrachloroethene                     |       | 111.4 | 74.5 | 124.5 | 4.4 | 30.0   |
| Toluene                               |       | 109.1 | 79.8 | 124.5 | 3.9 | 30.0   |
| Trichloroethene                       |       | 108.4 | 79.7 | 124.2 | 5.2 | 30.0   |
| Trichlorofluoromethane                |       | 94.3  | 59.7 | 151.8 | 6.2 | 30.0   |
| Vinyl chloride                        |       | 105.0 | 43.5 | 149.1 | 6.8 | 30.0   |
| o-Xylene                              |       | 111.4 | 80.2 | 131.0 | 4.2 | 30.0   |
| p,m-Xylene                            |       | 111.2 | 79.4 | 132.2 | 4.0 | 30.0   |
| Isopropylbenzene                      |       | 113.0 | 74.4 | 121.5 | 4.6 | 30.0   |
| Cyclohexane                           |       | 91.9  | 10.0 | 169.1 | 8.0 | 30.0   |
| 1,1-Dichloroethane                    |       | 103.9 | 71.5 | 126.2 | 5.2 | 30.0   |
| 1,1-Dichloroethene                    |       | 97.9  | 69.6 | 139.4 | 6.8 | 30.0   |
| Methyl Acetate                        |       | 94.4  | 64.7 | 125.4 | 4.1 | 30.0   |
| Methyl cyclohexane                    |       | 103.7 | 76.6 | 131.3 | 6.9 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 99.6  | 75.1 | 135.9 | 6.7 | 30.0   |
| 1,2-Dibromoethane                     |       | 109.7 | 70.3 | 133.7 | 1.6 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 106.4 | 79.8 | 126.3 | 2.1 | 30.0   |
| cis-1,3-Dichloropropene               |       | 105.2 | 79.8 | 129.9 | 3.9 | 30.0   |
| trans-1,3-Dichloropropene             |       | 101.7 | 74.0 | 131.3 | 3.2 | 30.0   |

## Matrix Spike (MS)

Lab Sample ID: 221004A7.4091402M, Parent Sample ID: S40914.01

Run in Batch: 221004A7, Run Date: 10/04/2022 23:38, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   |
|-----------------------------|-------|-------|------|-------|
| Acetone                     |       | 77.3  | 29.9 | 161.5 |
| 2-Butanone (MEK)            |       | 76.1  | 44.0 | 134.4 |
| Benzene                     |       | 104.7 | 79.9 | 124.9 |
| Bromodichloromethane        |       | 96.9  | 80.4 | 128.2 |
| Bromoform                   |       | 91.8  | 69.4 | 128.0 |
| Bromomethane                |       | 103.7 | 56.8 | 151.3 |
| Carbon disulfide            |       | 94.7  | 63.8 | 137.4 |
| Carbon tetrachloride        |       | 88.3  | 72.6 | 133.0 |
| Chlorobenzene               |       | 110.1 | 79.2 | 122.7 |
| Chloroethane                |       | 100.7 | 53.4 | 149.4 |
| Chloroform                  |       | 98.8  | 78.4 | 124.0 |
| Chloromethane               |       | 97.3  | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane |       | 88.2  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene         |       | 107.5 | 10.0 | 166.2 |
| 1,2-Dichloroethane          |       | 90.7  | 76.0 | 126.3 |
| 1,2-Dichloropropane         |       | 99.9  | 78.6 | 126.4 |
| 1,3-Dichlorobenzene         |       | 107.6 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene         |       | 107.7 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene      |       | 102.4 | 76.6 | 122.1 |
| Dibromochloromethane        |       | 99.0  | 74.6 | 127.2 |
| Dichlorodifluoromethane     |       | 96.9  | 10.0 | 222.8 |
| trans-1,2-Dichloroethene    |       | 96.5  | 73.6 | 129.3 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221004W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Matrix Spike (MS) (continued)

Lab Sample ID: 221004A7.4091402M, Parent Sample ID: S40914.01

Run in Batch: 221004A7, Run Date: 10/04/2022 23:38, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Ethylbenzene                          |       | 107.6 | 79.5 | 129.1 |
| 2-Hexanone                            |       | 80.1  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)           |       | 84.0  | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE)        |       | 96.2  | 73.2 | 122.4 |
| Methylene chloride                    |       | 100.1 | 73.3 | 121.1 |
| Styrene                               |       | 106.5 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane                 |       | 91.3  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane                 |       | 100.4 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene                |       | 116.7 | 27.4 | 143.4 |
| Tetrachloroethene                     |       | 105.9 | 74.5 | 124.5 |
| Toluene                               |       | 104.2 | 79.8 | 124.5 |
| Trichloroethene                       |       | 101.8 | 79.7 | 124.2 |
| Trichlorofluoromethane                |       | 92.4  | 59.7 | 151.8 |
| Vinyl chloride                        |       | 105.2 | 43.5 | 149.1 |
| o-Xylene                              |       | 106.4 | 80.2 | 131.0 |
| p,m-Xylene                            |       | 107.3 | 79.4 | 132.2 |
| Isopropylbenzene                      |       | 108.0 | 74.4 | 121.5 |
| Cyclohexane                           |       | 87.6  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 96.1  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 92.4  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 72.0  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 99.2  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 97.5  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 103.2 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 97.2  | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 99.1  | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 94.5  | 74.0 | 131.3 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221004A7.4091403N, Parent Sample ID: 221004A7.4091402M

Run in Batch: 221004A7, Run Date: 10/05/2022 00:02, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-----------------------------|-------|-------|------|-------|-----|--------|
| Acetone                     |       | 80.7  | 29.9 | 161.5 | 4.0 | 30.0   |
| 2-Butanone (MEK)            |       | 79.1  | 44.0 | 134.4 | 3.9 | 30.0   |
| Benzene                     |       | 99.0  | 79.9 | 124.9 | 5.7 | 30.0   |
| Bromodichloromethane        |       | 91.1  | 80.4 | 128.2 | 6.2 | 30.0   |
| Bromoform                   |       | 87.6  | 69.4 | 128.0 | 4.7 | 30.0   |
| Bromomethane                |       | 98.7  | 56.8 | 151.3 | 5.0 | 30.0   |
| Carbon disulfide            |       | 88.9  | 63.8 | 137.4 | 6.3 | 30.0   |
| Carbon tetrachloride        |       | 83.5  | 72.6 | 133.0 | 5.6 | 30.0   |
| Chlorobenzene               |       | 102.3 | 79.2 | 122.7 | 7.4 | 30.0   |
| Chloroethane                |       | 94.0  | 53.4 | 149.4 | 6.8 | 30.0   |
| Chloroform                  |       | 93.3  | 78.4 | 124.0 | 5.8 | 30.0   |
| Chloromethane               |       | 93.0  | 23.8 | 166.5 | 4.5 | 30.0   |
| 1,2-Dibromo-3-chloropropane |       | 85.8  | 21.2 | 189.4 | 2.8 | 30.0   |
| 1,2-Dichlorobenzene         |       | 98.7  | 10.0 | 166.2 | 8.5 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221004W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 221004A7.4091403N, Parent Sample ID: 221004A7.4091402M

Run in Batch: 221004A7, Run Date: 10/05/2022 00:02, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| 1,2-Dichloroethane                    |       | 85.5  | 76.0 | 126.3 | 5.9  | 30.0   |
| 1,2-Dichloropropane                   |       | 94.4  | 78.6 | 126.4 | 5.6  | 30.0   |
| 1,3-Dichlorobenzene                   |       | 99.3  | 77.0 | 131.3 | 8.0  | 30.0   |
| 1,4-Dichlorobenzene                   |       | 98.1  | 20.7 | 137.7 | 9.3  | 30.0   |
| cis-1,2-Dichloroethene                |       | 96.5  | 76.6 | 122.1 | 5.9  | 30.0   |
| Dibromochloromethane                  |       | 92.3  | 74.6 | 127.2 | 7.0  | 30.0   |
| Dichlorodifluoromethane               |       | 91.2  | 10.0 | 222.8 | 6.1  | 30.0   |
| trans-1,2-Dichloroethene              |       | 91.8  | 73.6 | 129.3 | 5.0  | 30.0   |
| Ethylbenzene                          |       | 100.8 | 79.5 | 129.1 | 6.4  | 30.0   |
| 2-Hexanone                            |       | 82.8  | 55.4 | 136.9 | 3.3  | 30.0   |
| 4-Methyl-2-pentanone (MIBK)           |       | 85.6  | 71.6 | 125.2 | 1.9  | 30.0   |
| tert-Methyl butyl ether (MTBE)        |       | 93.3  | 73.2 | 122.4 | 3.0  | 30.0   |
| Methylene chloride                    |       | 94.4  | 73.3 | 121.1 | 5.9  | 30.0   |
| Styrene                               |       | 99.3  | 69.5 | 126.7 | 7.0  | 30.0   |
| 1,1,1-Trichloroethane                 |       | 86.0  | 79.4 | 130.9 | 5.9  | 30.0   |
| 1,1,2-Trichloroethane                 |       | 96.0  | 78.7 | 123.1 | 4.4  | 30.0   |
| 1,2,4-Trichlorobenzene                |       | 105.0 | 27.4 | 143.4 | 10.6 | 30.0   |
| Tetrachloroethene                     |       | 100.2 | 74.5 | 124.5 | 5.5  | 30.0   |
| Toluene                               |       | 98.1  | 79.8 | 124.5 | 6.0  | 30.0   |
| Trichloroethene                       |       | 96.3  | 79.7 | 124.2 | 5.6  | 30.0   |
| Trichlorofluoromethane                |       | 88.3  | 59.7 | 151.8 | 4.4  | 30.0   |
| Vinyl chloride                        |       | 100.1 | 43.5 | 149.1 | 4.8  | 30.0   |
| o-Xylene                              |       | 100.5 | 80.2 | 131.0 | 5.7  | 30.0   |
| p,m-Xylene                            |       | 100.4 | 79.4 | 132.2 | 6.6  | 30.0   |
| Isopropylbenzene                      |       | 102.2 | 74.4 | 121.5 | 5.4  | 30.0   |
| Cyclohexane                           |       | 82.4  | 10.0 | 169.1 | 6.2  | 30.0   |
| 1,1-Dichloroethane                    |       | 91.6  | 71.5 | 126.2 | 4.8  | 30.0   |
| 1,1-Dichloroethene                    |       | 87.5  | 69.6 | 139.4 | 5.4  | 30.0   |
| Methyl Acetate                        |       | 73.0  | 64.7 | 125.4 | 1.4  | 30.0   |
| Methyl cyclohexane                    |       | 93.2  | 76.6 | 131.3 | 6.2  | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 90.6  | 75.1 | 135.9 | 7.3  | 30.0   |
| 1,2-Dibromoethane                     |       | 97.5  | 70.3 | 133.7 | 5.7  | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 96.2  | 79.8 | 126.3 | 1.1  | 30.0   |
| cis-1,3-Dichloropropene               |       | 91.9  | 79.8 | 129.9 | 7.6  | 30.0   |
| trans-1,3-Dichloropropene             |       | 88.3  | 74.0 | 131.3 | 6.7  | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | Conc | RDL  | Units |
|-------------|-------|------|------|-------|
| 1,4-Dioxane | *     | 0.33 | 0.02 | ug/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   |
|-------------|-------|-------|------|-------|
| 1,4-Dioxane |       | 90.5  | 70.0 | 130.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-------------|-------|-------|------|-------|-----|--------|
| 1,4-Dioxane |       | 90.2  | 70.0 | 130.0 | 0.4 | 30.0   |

## REPORT TO

|                                                        |  |  |  |              |  |       |  |                     |  |  |  |  |  |  |  |
|--------------------------------------------------------|--|--|--|--------------|--|-------|--|---------------------|--|--|--|--|--|--|--|
| CONTACT NAME                                           |  |  |  | Alexis Crisp |  |       |  |                     |  |  |  |  |  |  |  |
| COMPANY                                                |  |  |  | Arcadis      |  |       |  |                     |  |  |  |  |  |  |  |
| ADDRESS                                                |  |  |  |              |  |       |  | 28550 Cabot Dr #500 |  |  |  |  |  |  |  |
| CITY                                                   |  |  |  |              |  | STATE |  | ZIP CODE            |  |  |  |  |  |  |  |
| Novi                                                   |  |  |  |              |  | MI    |  | 48317               |  |  |  |  |  |  |  |
| PHONE NO.                                              |  |  |  | CELL NO.     |  |       |  | P.O. NO.            |  |  |  |  |  |  |  |
|                                                        |  |  |  |              |  |       |  | 30112891.00006      |  |  |  |  |  |  |  |
| E-MAIL ADDRESS                                         |  |  |  |              |  |       |  | QUOTE NO.           |  |  |  |  |  |  |  |
| tiffany.linder@arcadis.com<br>Alexis.Crisp@arcadis.com |  |  |  |              |  |       |  | 20128910006         |  |  |  |  |  |  |  |

## CHAIN OF CUSTODY RECORD

|                   |  |                                             |  |                               |          |
|-------------------|--|---------------------------------------------|--|-------------------------------|----------|
| CONTACT NAME      |  | Accounts Payable                            |  | <input type="checkbox"/> 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 |  |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| PROJECT NO./NAME<br>30112891.00004 / Racer PNC                                                                                                                                                                                                    | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br>Sommer Guy / Sommer Guy |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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]

|                        |                    |                |                |                |              |
|------------------------|--------------------|----------------|----------------|----------------|--------------|
| RELINQUISHED BY:       | <i>Summer Day</i>  | <i>Arcadis</i> | <i>Sampler</i> | DATE           | TIME         |
| SIGNATURE/ORGANIZATION |                    |                |                | <i>9/29/22</i> | <i>13:00</i> |
| RECEIVED BY:           | <i>J. Smith</i>    |                |                | DATE           | TIME         |
| SIGNATURE/ORGANIZATION |                    |                |                | <i>9/29/22</i> | <i>13:00</i> |
| RELINQUISHED BY:       | <i>J. Smith</i>    |                |                | DATE           | TIME         |
| SIGNATURE/ORGANIZATION |                    |                |                | <i>9/29/22</i> | <i>13:00</i> |
| RECEIVED BY:           | <i>M. Chilcote</i> |                |                | DATE           | TIME         |
| SIGNATURE/ORGANIZATION |                    |                |                | <i>9/29/22</i> | <i>16:00</i> |

|                        |                                                                         |          |        |                  |      |
|------------------------|-------------------------------------------------------------------------|----------|--------|------------------|------|
| RELINQUISHED BY:       |                                                                         |          |        | DATE             | TIME |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                  |      |
| RECEIVED BY:           |                                                                         |          |        | DATE             | TIME |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                  |      |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL | 2.9  |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                  |      |



# Analytical Laboratory Report

Report ID: S40915.01(01)  
Generated on 10/06/2022

**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, Ian Drost

**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): S40915.01-S40915.03  
Project: 30112891.00006  
Collected Date(s): 09/28/2022  
Submitted Date/Time: 09/29/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report



## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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 (3 samples)

| Sample ID | Sample Tag        | Matrix      | Collected Date/Time |
|-----------|-------------------|-------------|---------------------|
| S40915.01 | MWM2-22_GW-092822 | Groundwater | 09/28/22 14:55      |
| S40915.02 | Dup-03_GW-092822  | Groundwater | 09/28/22 00:01      |
| S40915.03 | tripblank_24      | Water       | 09/28/22 00:01      |



# Analytical Laboratory Report

Lab Sample ID: S40915.01

Sample Tag: MWM2-22\_GW-092822

Collected Date/Time: 09/28/2022 14:55

Matrix: Groundwater

COC Reference: 154492

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass | HCL             | Yes           | 2.9               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 02:17, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | 14           | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | 5            | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | 42           | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | 15           | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | 18           | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40915.01 (continued)  
Sample Tag: MWM2-22\_GW-092822

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 02:17, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | 27           | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40915.02

Sample Tag: Dup-03\_GW-092822

Collected Date/Time: 09/28/2022 00:01

Matrix: Groundwater

COC Reference: 154492

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 2 | 40ml Glass | HCL             | Yes           | 2.9               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 06:29, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | 14           | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | 5            | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | 42           | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | 16           | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | 17           | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40915.02 (continued)

Sample Tag: Dup-03\_GW-092822

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 06:29, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | 27           | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40915.03

Sample Tag: tripblank\_24

Collected Date/Time: 09/28/2022 00:01

Matrix: Water

COC Reference: 154492

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 2.9               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/06/22 13:30 | NDK     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 00:59, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |





# Analytical Laboratory Report

Lab Sample ID: S40915.03 (continued)

Sample Tag: tripblank\_24

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/06/22 00:59, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40915

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006

Submitted:09/29/2022 16:00 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                                            |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------|
| <b>Sample Receiving</b>                                                                              |                                                        |                                                 |
| 01. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer #        | IR 2.9                                          |
| 02. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |                                                 |
| 03. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |                                                 |
| 04. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |                                                 |
| 05. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |                                                 |
| <b>Chain of Custody</b>                                                                              |                                                        |                                                 |
| 06. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |                                                 |
| 07. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |                                                 |
| 08. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |                                                 |
| 09. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |                                                 |
| <b>Preservation</b>                                                                                  |                                                        |                                                 |
| 10. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |                                                 |
| 11. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |                                                 |
| 12. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |                                                 |
| <b>Bottle Conditions</b>                                                                             |                                                        |                                                 |
| 13. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     | One VOA from sample .02 broken during receiving |
| 14. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |                                                 |
| 15. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |                                                 |
| 16. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |                                                 |
| 17. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |                                                 |
| 18. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |                                                 |
| 19. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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                                        |  |  |  | Alexis Crisp |  |  |  |                     |  |    |  |                |  |       |  |
| COMPANY                                             |  |  |  | Arcadis      |  |  |  |                     |  |    |  |                |  |       |  |
| ADDRESS                                             |  |  |  |              |  |  |  | 28550 Cabot Dr #500 |  |    |  |                |  |       |  |
| CITY                                                |  |  |  | NOVI         |  |  |  | STATE               |  | MI |  | ZIP CODE       |  | 48377 |  |
| PHONE NO.                                           |  |  |  | CELL NO.     |  |  |  | P.O. NO.            |  |    |  | 30112891.00006 |  |       |  |
| E-MAIL ADDRESS                                      |  |  |  |              |  |  |  | QUOTE NO.           |  |    |  |                |  |       |  |
| tiffany.linder@arcadis.com Alexis.Crisp@arcadis.com |  |  |  |              |  |  |  |                     |  |    |  |                |  |       |  |

## CHAIN OF CUSTODY RECORD

|              |  |                                             |  |                               |          |
|--------------|--|---------------------------------------------|--|-------------------------------|----------|
| CONTACT NAME |  | Accounts Payable                            |  | <input type="checkbox"/> 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 |  |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| PROJECT NO./NAME<br><b>30112891.00006</b>                                                                                                                                                                                                         | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>Sommer Guy / Sommer Guy</b> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                       |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER _____ |                                                                       |

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

## # Containers & Preservatives

[illegible]

|                        |                             |                                             |         |       |
|------------------------|-----------------------------|---------------------------------------------|---------|-------|
| RELINQUISHED BY:       | <i>Samuel Hui / Arcades</i> | <input checked="" type="checkbox"/> Sampler | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/29/22 | 13:00 |
| RECEIVED BY:           | <i>Samuel</i>               |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/29/22 | 13:00 |
| RELINQUISHED BY:       | <i>Samuel</i>               |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/29/22 | 16:00 |
| RECEIVED BY:           | <i>M. Roberts</i>           |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/29/22 | 16:00 |

|                        |                                                                         |          |        |                                |
|------------------------|-------------------------------------------------------------------------|----------|--------|--------------------------------|
| RELINQUISHED BY:       |                                                                         |          | DATE   | TIME                           |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                                |
| RECEIVED BY:           |                                                                         |          | DATE   | TIME                           |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                                |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL<br><u>2.9</u> |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                                |

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



# Quality Control Report

Report ID: QC-S40915-01  
Generated on 10/07/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S40915.01-S40915.03  
Project: 30112891.00006  
Submitted Date/Time: 09/29/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-4)  
Prep Batch Summary (Page 5)  
Surrogates per Lab Sample (Pages 6-8)  
Surrogates per QC Sample (Pages 9-10)  
Batch QC Results (Pages 11-19)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S40915.01**

Sample Tag: MWM2-22\_GW-092822

Collected Date/Time: 09/28/2022 14:55

Matrix: Groundwater

COC Reference: 154492

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 02:17 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

**Lab Sample ID: S40915.02**

Sample Tag: Dup-03\_GW-092822

Collected Date/Time: 09/28/2022 00:01

Matrix: Groundwater

COC Reference: 154492

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 06:29 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Analysis Summary

Lab Sample ID: S40915.03

Sample Tag: tripblank\_24

Collected Date/Time: 09/28/2022 00:01

Matrix: Water

COC Reference: 154492

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types           |
|-----------------------------|---------------|----------------|----------|------------|------|--------------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |                    |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 00:59 | 221005B9 | VF221005W4 | Yes  | BLK/LCS/LCSD/MS/MS |

## QC Report - Prep Batch Summary

### Organics - Volatiles, Prep Batch ID: VF221005W4

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40915.01 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 02:17 | 221005B9 |
| S40915.02 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 06:29 | 221005B9 |
| S40915.03 | Volatile Organics - Arcadis | SW5030C/8260C | 10/06/22 00:59 | 221005B9 |



## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40915.01**

Sample Tag: MWM2-22\_GW-092822

Collected Date/Time: 09/28/2022 14:55

Matrix: Groundwater

COC Reference: 154492

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005B9, Run Date: 10/06/2022 02:17, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>99.7</b>  | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>94.4</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>101.9</b> | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40915.02

Sample Tag: Dup-03\_GW-092822

Collected Date/Time: 09/28/2022 00:01

Matrix: Groundwater

COC Reference: 154492

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005B9, Run Date: 10/06/2022 06:29, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 102.3 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 122.7 | 72.0 | 125.0 |
| Toluene-D8            |       | 102.8 | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40915.03**

Sample Tag: tripblank\_24

Collected Date/Time: 09/28/2022 00:01

Matrix: Water

COC Reference: 154492

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221005B9, Run Date: 10/06/2022 00:59, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>107.0</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>103.6</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>95.6</b>  | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF221005W4

QC Types: BLK/LCS/LCSD/MS/MSD

#### Blank (BLK)

Lab Sample ID: 221005B9.BLKW05B

Run in Batch: 221005B9, Run Date: 10/06/2022 00:01, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 99.0  | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 106.2 | 72.0 | 125.0 |
| Toluene-D8            |       | 100.0 | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 108.8 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 108.8 | 72.0 | 125.0 |
| Toluene-D8            | *     | 87.9  | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005B9.LCSDW05B, Parent Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:46, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 123.0 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 99.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 105.7 | 89.0 | 112.0 |

#### Matrix Spike (MS)

Lab Sample ID: 221005B9.4090007M, Parent Sample ID: S40900.04

Run in Batch: 221005B9, Run Date: 10/05/2022 22:45, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.1 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 100.5 | 72.0 | 125.0 |
| Toluene-D8            |       | 100.0 | 89.0 | 112.0 |

#### Matrix Spike (MS)

Lab Sample ID: 221005B9.4090802M, Parent Sample ID: S40908.01

Run in Batch: 221005B9, Run Date: 10/05/2022 22:06, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 103.5 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 102.6 | 72.0 | 125.0 |
| Toluene-D8            | *     | 123.0 | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090008N, Parent Sample ID: 221005B9.4090007M

Run in Batch: 221005B9, Run Date: 10/05/2022 23:04, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>107.3</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>116.8</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>95.4</b>  | 89.0 | 112.0 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090803N, Parent Sample ID: 221005B9.4090802M

Run in Batch: 221005B9, Run Date: 10/05/2022 22:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>88.6</b>  | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>91.4</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.6</b> | 89.0 | 112.0 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Blank (BLK)

Lab Sample ID: 221005B9.BLKW05B

Run in Batch: 221005B9, Run Date: 10/06/2022 00:01, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Blank (BLK) (continued)

Lab Sample ID: 221005B9.BLKW05B

Run in Batch: 221005B9, Run Date: 10/06/2022 00:01, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 101.7 | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 111.7 | 44.0 | 134.4 |
| Benzene                        |       | 86.0  | 79.9 | 124.9 |
| Bromodichloromethane           |       | 97.2  | 80.4 | 128.2 |
| Bromoform                      |       | 107.5 | 69.4 | 128.0 |
| Bromomethane                   |       | 137.7 | 56.8 | 151.3 |
| Carbon disulfide               |       | 93.6  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 81.7  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 108.9 | 79.2 | 122.7 |
| Chloroethane                   |       | 140.2 | 53.4 | 149.4 |
| Chloroform                     |       | 116.0 | 78.4 | 124.0 |
| Chloromethane                  |       | 154.9 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 126.7 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 111.1 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 86.5  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 100.1 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 110.7 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 106.4 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 109.1 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 127.0 | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 103.5 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 101.8 | 73.6 | 129.3 |
| Ethylbenzene                   |       | 103.4 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 97.9  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 98.2  | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 112.1 | 73.2 | 122.4 |
| Methylene chloride             |       | 109.5 | 73.3 | 121.1 |
| Styrene                        |       | 113.0 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 110.1 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 92.8  | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 118.0 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 83.7  | 74.5 | 124.5 |
| Toluene                        |       | 90.2  | 79.8 | 124.5 |
| Trichloroethene                |       | 108.2 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 128.2 | 59.7 | 151.8 |
| Vinyl chloride                 | *     | 152.2 | 43.5 | 149.1 |
| o-Xylene                       |       | 115.1 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 97.1  | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:27, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 100.9 | 74.4 | 121.5 |
| Cyclohexane                           |       | 103.9 | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 104.7 | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 98.1  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 109.7 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 93.6  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 98.7  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 128.6 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 113.0 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 97.1  | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 96.3  | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221005B9.LCSDW05B, Parent Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:46, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|--------------------------------|-------|-------|------|-------|------|--------|
| Acetone                        |       | 93.2  | 29.9 | 161.5 | 8.7  | 30.0   |
| 2-Butanone (MEK)               |       | 101.3 | 44.0 | 134.4 | 9.8  | 30.0   |
| Benzene                        | *     | 117.9 | 79.9 | 124.9 | 31.3 | 30.0   |
| Bromodichloromethane           |       | 115.1 | 80.4 | 128.2 | 16.8 | 30.0   |
| Bromoform                      | *     | 130.5 | 69.4 | 128.0 | 19.3 | 30.0   |
| Bromomethane                   |       | 135.7 | 56.8 | 151.3 | 1.5  | 30.0   |
| Carbon disulfide               |       | 97.7  | 63.8 | 137.4 | 4.4  | 30.0   |
| Carbon tetrachloride           | *     | 112.0 | 72.6 | 133.0 | 31.3 | 30.0   |
| Chlorobenzene                  |       | 112.9 | 79.2 | 122.7 | 3.6  | 30.0   |
| Chloroethane                   |       | 131.3 | 53.4 | 149.4 | 6.6  | 30.0   |
| Chloroform                     |       | 111.6 | 78.4 | 124.0 | 3.9  | 30.0   |
| Chloromethane                  |       | 155.8 | 23.8 | 166.5 | 0.6  | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 117.3 | 21.2 | 189.4 | 7.7  | 30.0   |
| 1,2-Dichlorobenzene            |       | 114.1 | 10.0 | 166.2 | 2.7  | 30.0   |
| 1,2-Dichloroethane             |       | 114.1 | 76.0 | 126.3 | 27.6 | 30.0   |
| 1,2-Dichloropropane            |       | 117.2 | 78.6 | 126.4 | 15.8 | 30.0   |
| 1,3-Dichlorobenzene            |       | 111.3 | 77.0 | 131.3 | 0.6  | 30.0   |
| 1,4-Dichlorobenzene            |       | 112.1 | 20.7 | 137.7 | 5.2  | 30.0   |
| cis-1,2-Dichloroethene         |       | 111.8 | 76.6 | 122.1 | 2.4  | 30.0   |
| Dibromochloromethane           |       | 114.4 | 74.6 | 127.2 | 10.4 | 30.0   |
| Dichlorodifluoromethane        |       | 108.8 | 10.0 | 222.8 | 5.0  | 30.0   |
| trans-1,2-Dichloroethene       |       | 105.5 | 73.6 | 129.3 | 3.5  | 30.0   |
| Ethylbenzene                   |       | 111.6 | 79.5 | 129.1 | 7.7  | 30.0   |
| 2-Hexanone                     |       | 116.8 | 55.4 | 136.9 | 17.6 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 123.3 | 71.6 | 125.2 | 22.7 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 108.8 | 73.2 | 122.4 | 3.0  | 30.0   |
| Methylene chloride             |       | 111.1 | 73.3 | 121.1 | 1.4  | 30.0   |
| Styrene                        | *     | 136.7 | 69.5 | 126.7 | 18.9 | 30.0   |
| 1,1,1-Trichloroethane          |       | 113.3 | 79.4 | 130.9 | 2.8  | 30.0   |
| 1,1,2-Trichloroethane          |       | 122.8 | 78.7 | 123.1 | 27.9 | 30.0   |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 221005B9.LCSDW05B, Parent Sample ID: 221005B9.LCSW05B

Run in Batch: 221005B9, Run Date: 10/05/2022 21:46, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| 1,2,4-Trichlorobenzene                |       | 117.5 | 27.4 | 143.4 | 0.4  | 30.0   |
| Tetrachloroethene                     | *     | 113.7 | 74.5 | 124.5 | 30.4 | 30.0   |
| Toluene                               |       | 113.1 | 79.8 | 124.5 | 22.5 | 30.0   |
| Trichloroethene                       |       | 111.8 | 79.7 | 124.2 | 3.2  | 30.0   |
| Trichlorofluoromethane                |       | 147.6 | 59.7 | 151.8 | 14.0 | 30.0   |
| Vinyl chloride                        | *     | 161.1 | 43.5 | 149.1 | 5.7  | 30.0   |
| o-Xylene                              | *     | 136.1 | 80.2 | 131.0 | 16.8 | 30.0   |
| p,m-Xylene                            |       | 111.1 | 79.4 | 132.2 | 13.4 | 30.0   |
| Isopropylbenzene                      | *     | 135.8 | 74.4 | 121.5 | 29.5 | 30.0   |
| Cyclohexane                           |       | 105.8 | 10.0 | 169.1 | 1.9  | 30.0   |
| 1,1-Dichloroethane                    |       | 109.3 | 71.5 | 126.2 | 4.3  | 30.0   |
| 1,1-Dichloroethene                    |       | 101.6 | 69.6 | 139.4 | 3.4  | 30.0   |
| Methyl Acetate                        |       | 101.7 | 64.7 | 125.4 | 7.6  | 30.0   |
| Methyl cyclohexane                    |       | 111.6 | 76.6 | 131.3 | 17.6 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 101.6 | 75.1 | 135.9 | 2.9  | 30.0   |
| 1,2-Dibromoethane                     |       | 113.4 | 70.3 | 133.7 | 12.6 | 30.0   |
| 1,1,2,2-Tetrachloroethane             | *     | 136.2 | 79.8 | 126.3 | 18.6 | 30.0   |
| cis-1,3-Dichloropropene               | *     | 136.3 | 79.8 | 129.9 | 33.6 | 30.0   |
| trans-1,3-Dichloropropene             | *     | 142.2 | 74.0 | 131.3 | 38.6 | 30.0   |

## Matrix Spike (MS)

Lab Sample ID: 221005B9.4090007M, Parent Sample ID: S40900.04

Run in Batch: 221005B9, Run Date: 10/05/2022 22:45, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   |
|-----------------------------|-------|-------|------|-------|
| Acetone                     |       | 78.5  | 29.9 | 161.5 |
| 2-Butanone (MEK)            |       | 85.8  | 44.0 | 134.4 |
| Benzene                     |       | 99.7  | 79.9 | 124.9 |
| Bromodichloromethane        |       | 125.0 | 80.4 | 128.2 |
| Bromoform                   |       | 93.2  | 69.4 | 128.0 |
| Bromomethane                |       | 120.4 | 56.8 | 151.3 |
| Carbon disulfide            |       | 85.1  | 63.8 | 137.4 |
| Carbon tetrachloride        |       | 98.3  | 72.6 | 133.0 |
| Chlorobenzene               |       | 102.1 | 79.2 | 122.7 |
| Chloroethane                |       | 119.8 | 53.4 | 149.4 |
| Chloroform                  |       | 102.3 | 78.4 | 124.0 |
| Chloromethane               |       | 137.3 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane |       | 104.9 | 21.2 | 189.4 |
| 1,2-Dichlorobenzene         |       | 93.1  | 10.0 | 166.2 |
| 1,2-Dichloroethane          |       | 99.6  | 76.0 | 126.3 |
| 1,2-Dichloropropane         |       | 103.7 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene         |       | 98.5  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene         |       | 99.6  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene      |       | 92.8  | 76.6 | 122.1 |
| Dibromochloromethane        |       | 119.1 | 74.6 | 127.2 |
| Dichlorodifluoromethane     |       | 111.6 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene    |       | 89.5  | 73.6 | 129.3 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Matrix Spike (MS) (continued)

Lab Sample ID: 221005B9.4090007M, Parent Sample ID: S40900.04

Run in Batch: 221005B9, Run Date: 10/05/2022 22:45, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Ethylbenzene                          |       | 98.2  | 79.5 | 129.1 |
| 2-Hexanone                            |       | 97.2  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)           |       | 124.4 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE)        |       | 96.5  | 73.2 | 122.4 |
| Methylene chloride                    |       | 95.2  | 73.3 | 121.1 |
| Styrene                               |       | 96.5  | 69.5 | 126.7 |
| 1,1,1-Trichloroethane                 |       | 109.1 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane                 |       | 114.7 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene                |       | 95.8  | 27.4 | 143.4 |
| Tetrachloroethene                     |       | 93.9  | 74.5 | 124.5 |
| Toluene                               |       | 103.7 | 79.8 | 124.5 |
| Trichloroethene                       |       | 112.4 | 79.7 | 124.2 |
| Trichlorofluoromethane                |       | 123.3 | 59.7 | 151.8 |
| Vinyl chloride                        |       | 124.2 | 43.5 | 149.1 |
| o-Xylene                              |       | 98.0  | 80.2 | 131.0 |
| p,m-Xylene                            |       | 99.2  | 79.4 | 132.2 |
| Isopropylbenzene                      |       | 90.1  | 74.4 | 121.5 |
| Cyclohexane                           |       | 90.4  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 91.4  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 84.6  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 72.7  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 92.3  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 83.2  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 120.0 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 115.1 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 102.8 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 102.5 | 74.0 | 131.3 |

### Matrix Spike (MS)

Lab Sample ID: 221005B9.4090802M, Parent Sample ID: S40908.01

Run in Batch: 221005B9, Run Date: 10/05/2022 22:06, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                     | Flags | % Rec | LCL  | UCL   |
|-----------------------------|-------|-------|------|-------|
| Acetone                     |       | 98.7  | 29.9 | 161.5 |
| 2-Butanone (MEK)            |       | 93.9  | 44.0 | 134.4 |
| Benzene                     |       | 98.2  | 79.9 | 124.9 |
| Bromodichloromethane        |       | 108.0 | 80.4 | 128.2 |
| Bromoform                   |       | 95.8  | 69.4 | 128.0 |
| Bromomethane                |       | 129.1 | 56.8 | 151.3 |
| Carbon disulfide            |       | 91.8  | 63.8 | 137.4 |
| Carbon tetrachloride        |       | 95.7  | 72.6 | 133.0 |
| Chlorobenzene               |       | 96.2  | 79.2 | 122.7 |
| Chloroethane                |       | 131.5 | 53.4 | 149.4 |
| Chloroform                  |       | 100.0 | 78.4 | 124.0 |
| Chloromethane               |       | 141.1 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane |       | 98.5  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene         |       | 95.7  | 10.0 | 166.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Matrix Spike (MS) (continued)

Lab Sample ID: 221005B9.4090802M, Parent Sample ID: S40908.01

Run in Batch: 221005B9, Run Date: 10/05/2022 22:06, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| 1,2-Dichloroethane                    |       | 98.0  | 76.0 | 126.3 |
| 1,2-Dichloropropane                   |       | 104.4 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene                   |       | 96.2  | 77.0 | 131.3 |
| 1,4-Dichlorobenzene                   |       | 92.8  | 20.7 | 137.7 |
| cis-1,2-Dichloroethene                |       | 99.7  | 76.6 | 122.1 |
| Dibromochloromethane                  |       | 85.0  | 74.6 | 127.2 |
| Dichlorodifluoromethane               |       | 106.2 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene              |       | 95.9  | 73.6 | 129.3 |
| Ethylbenzene                          |       | 83.4  | 79.5 | 129.1 |
| 2-Hexanone                            |       | 110.4 | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)           |       | 109.5 | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE)        |       | 104.4 | 73.2 | 122.4 |
| Methylene chloride                    |       | 101.4 | 73.3 | 121.1 |
| Styrene                               |       | 80.7  | 69.5 | 126.7 |
| 1,1,1-Trichloroethane                 |       | 97.6  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane                 |       | 120.8 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene                |       | 92.4  | 27.4 | 143.4 |
| Tetrachloroethene                     |       | 104.6 | 74.5 | 124.5 |
| Toluene                               | *     | 134.1 | 79.8 | 124.5 |
| Trichloroethene                       |       | 98.0  | 79.7 | 124.2 |
| Trichlorofluoromethane                |       | 126.1 | 59.7 | 151.8 |
| Vinyl chloride                        |       | 135.8 | 43.5 | 149.1 |
| o-Xylene                              |       | 86.3  | 80.2 | 131.0 |
| p,m-Xylene                            |       | 80.3  | 79.4 | 132.2 |
| Isopropylbenzene                      |       | 96.7  | 74.4 | 121.5 |
| Cyclohexane                           |       | 88.2  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 99.5  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 94.2  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 79.8  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 93.0  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 90.2  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 83.5  | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 100.1 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 104.4 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 114.3 | 74.0 | 131.3 |

## Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090008N, Parent Sample ID: 221005B9.4090007M

Run in Batch: 221005B9, Run Date: 10/05/2022 23:04, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte              | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|----------------------|-------|-------|------|-------|------|--------|
| Acetone              |       | 99.0  | 29.9 | 161.5 | 21.5 | 30.0   |
| 2-Butanone (MEK)     |       | 107.4 | 44.0 | 134.4 | 22.4 | 30.0   |
| Benzene              |       | 104.2 | 79.9 | 124.9 | 4.4  | 30.0   |
| Bromodichloromethane |       | 103.8 | 80.4 | 128.2 | 18.6 | 30.0   |
| Bromoform            |       | 100.6 | 69.4 | 128.0 | 7.6  | 30.0   |
| Bromomethane         |       | 120.1 | 56.8 | 151.3 | 0.3  | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

## Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 221005B9.4090008N, Parent Sample ID: 221005B9.4090007M

Run in Batch: 221005B9, Run Date: 10/05/2022 23:04, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| Carbon disulfide                      |       | 93.7  | 63.8 | 137.4 | 9.6  | 30.0   |
| Carbon tetrachloride                  |       | 91.5  | 72.6 | 133.0 | 7.2  | 30.0   |
| Chlorobenzene                         |       | 99.1  | 79.2 | 122.7 | 3.0  | 30.0   |
| Chloroethane                          |       | 116.4 | 53.4 | 149.4 | 2.9  | 30.0   |
| Chloroform                            |       | 106.7 | 78.4 | 124.0 | 4.2  | 30.0   |
| Chloromethane                         |       | 127.5 | 23.8 | 166.5 | 7.4  | 30.0   |
| 1,2-Dibromo-3-chloropropane           |       | 93.1  | 21.2 | 189.4 | 11.9 | 30.0   |
| 1,2-Dichlorobenzene                   |       | 90.5  | 10.0 | 166.2 | 2.9  | 30.0   |
| 1,2-Dichloroethane                    |       | 105.8 | 76.0 | 126.3 | 6.1  | 30.0   |
| 1,2-Dichloropropane                   |       | 104.6 | 78.6 | 126.4 | 0.8  | 30.0   |
| 1,3-Dichlorobenzene                   |       | 97.2  | 77.0 | 131.3 | 1.4  | 30.0   |
| 1,4-Dichlorobenzene                   |       | 94.8  | 20.7 | 137.7 | 4.9  | 30.0   |
| cis-1,2-Dichloroethene                |       | 105.2 | 76.6 | 122.1 | 12.5 | 30.0   |
| Dibromochloromethane                  |       | 105.8 | 74.6 | 127.2 | 11.9 | 30.0   |
| Dichlorodifluoromethane               |       | 105.9 | 10.0 | 222.8 | 5.2  | 30.0   |
| trans-1,2-Dichloroethene              |       | 97.5  | 73.6 | 129.3 | 8.6  | 30.0   |
| Ethylbenzene                          |       | 101.3 | 79.5 | 129.1 | 3.1  | 30.0   |
| 2-Hexanone                            |       | 111.5 | 55.4 | 136.9 | 13.7 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)           |       | 101.9 | 71.6 | 125.2 | 19.9 | 30.0   |
| tert-Methyl butyl ether (MTBE)        |       | 110.2 | 73.2 | 122.4 | 13.2 | 30.0   |
| Methylene chloride                    |       | 109.6 | 73.3 | 121.1 | 14.1 | 30.0   |
| Styrene                               |       | 99.9  | 69.5 | 126.7 | 3.5  | 30.0   |
| 1,1,1-Trichloroethane                 |       | 98.8  | 79.4 | 130.9 | 9.9  | 30.0   |
| 1,1,2-Trichloroethane                 |       | 99.4  | 78.7 | 123.1 | 14.3 | 30.0   |
| 1,2,4-Trichlorobenzene                |       | 90.4  | 27.4 | 143.4 | 5.8  | 30.0   |
| Tetrachloroethene                     |       | 96.9  | 74.5 | 124.5 | 3.2  | 30.0   |
| Toluene                               |       | 93.7  | 79.8 | 124.5 | 10.1 | 30.0   |
| Trichloroethene                       |       | 97.0  | 79.7 | 124.2 | 14.7 | 30.0   |
| Trichlorofluoromethane                |       | 115.5 | 59.7 | 151.8 | 6.6  | 30.0   |
| Vinyl chloride                        |       | 125.3 | 43.5 | 149.1 | 0.9  | 30.0   |
| o-Xylene                              |       | 101.5 | 80.2 | 131.0 | 3.5  | 30.0   |
| p,m-Xylene                            |       | 102.0 | 79.4 | 132.2 | 2.8  | 30.0   |
| Isopropylbenzene                      |       | 104.1 | 74.4 | 121.5 | 14.4 | 30.0   |
| Cyclohexane                           |       | 89.3  | 10.0 | 169.1 | 1.2  | 30.0   |
| 1,1-Dichloroethane                    |       | 104.5 | 71.5 | 126.2 | 13.4 | 30.0   |
| 1,1-Dichloroethene                    |       | 91.8  | 69.6 | 139.4 | 8.1  | 30.0   |
| Methyl Acetate                        |       | 89.3  | 64.7 | 125.4 | 20.5 | 30.0   |
| Methyl cyclohexane                    |       | 92.9  | 76.6 | 131.3 | 0.6  | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 89.4  | 75.1 | 135.9 | 7.2  | 30.0   |
| 1,2-Dibromoethane                     |       | 102.6 | 70.3 | 133.7 | 15.6 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 108.6 | 79.8 | 126.3 | 5.9  | 30.0   |
| cis-1,3-Dichloropropene               |       | 96.7  | 79.8 | 129.9 | 6.2  | 30.0   |
| trans-1,3-Dichloropropene             |       | 98.3  | 74.0 | 131.3 | 4.2  | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 221005B9.4090803N, Parent Sample ID: 221005B9.4090802M

Run in Batch: 221005B9, Run Date: 10/05/2022 22:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------------------|-------|-------|------|-------|------|--------|
| Acetone                               |       | 90.2  | 29.9 | 161.5 | 9.0  | 30.0   |
| 2-Butanone (MEK)                      |       | 95.9  | 44.0 | 134.4 | 2.1  | 30.0   |
| Benzene                               |       | 103.3 | 79.9 | 124.9 | 5.0  | 30.0   |
| Bromodichloromethane                  |       | 99.3  | 80.4 | 128.2 | 8.4  | 30.0   |
| Bromoform                             |       | 85.0  | 69.4 | 128.0 | 11.9 | 30.0   |
| Bromomethane                          |       | 101.1 | 56.8 | 151.3 | 24.3 | 30.0   |
| Carbon disulfide                      |       | 97.5  | 63.8 | 137.4 | 6.1  | 30.0   |
| Carbon tetrachloride                  |       | 92.6  | 72.6 | 133.0 | 3.3  | 30.0   |
| Chlorobenzene                         |       | 99.3  | 79.2 | 122.7 | 3.1  | 30.0   |
| Chloroethane                          |       | 101.4 | 53.4 | 149.4 | 25.9 | 30.0   |
| Chloroform                            |       | 99.0  | 78.4 | 124.0 | 1.0  | 30.0   |
| Chloromethane                         | *     | 102.6 | 23.8 | 166.5 | 31.6 | 30.0   |
| 1,2-Dibromo-3-chloropropane           |       | 100.0 | 21.2 | 189.4 | 1.5  | 30.0   |
| 1,2-Dichlorobenzene                   |       | 101.3 | 10.0 | 166.2 | 5.7  | 30.0   |
| 1,2-Dichloroethane                    |       | 90.4  | 76.0 | 126.3 | 8.1  | 30.0   |
| 1,2-Dichloropropane                   |       | 104.2 | 78.6 | 126.4 | 0.2  | 30.0   |
| 1,3-Dichlorobenzene                   |       | 96.8  | 77.0 | 131.3 | 0.6  | 30.0   |
| 1,4-Dichlorobenzene                   |       | 100.8 | 20.7 | 137.7 | 8.3  | 30.0   |
| cis-1,2-Dichloroethene                |       | 101.8 | 76.6 | 122.1 | 2.1  | 30.0   |
| Dibromochloromethane                  |       | 100.7 | 74.6 | 127.2 | 16.9 | 30.0   |
| Dichlorodifluoromethane               |       | 84.9  | 10.0 | 222.8 | 22.3 | 30.0   |
| trans-1,2-Dichloroethene              |       | 99.5  | 73.6 | 129.3 | 3.6  | 30.0   |
| Ethylbenzene                          |       | 98.7  | 79.5 | 129.1 | 16.7 | 30.0   |
| 2-Hexanone                            |       | 102.9 | 55.4 | 136.9 | 7.0  | 30.0   |
| 4-Methyl-2-pentanone (MIBK)           |       | 105.0 | 71.6 | 125.2 | 4.2  | 30.0   |
| tert-Methyl butyl ether (MTBE)        |       | 104.1 | 73.2 | 122.4 | 0.3  | 30.0   |
| Methylene chloride                    |       | 105.9 | 73.3 | 121.1 | 4.3  | 30.0   |
| Styrene                               |       | 85.3  | 69.5 | 126.7 | 5.6  | 30.0   |
| 1,1,1-Trichloroethane                 |       | 95.4  | 79.4 | 130.9 | 2.3  | 30.0   |
| 1,1,2-Trichloroethane                 |       | 102.5 | 78.7 | 123.1 | 16.4 | 30.0   |
| 1,2,4-Trichlorobenzene                |       | 95.0  | 27.4 | 143.4 | 2.8  | 30.0   |
| Tetrachloroethene                     |       | 94.3  | 74.5 | 124.5 | 10.4 | 30.0   |
| Toluene                               |       | 100.2 | 79.8 | 124.5 | 28.9 | 30.0   |
| Trichloroethene                       |       | 99.9  | 79.7 | 124.2 | 1.9  | 30.0   |
| Trichlorofluoromethane                |       | 99.8  | 59.7 | 151.8 | 23.3 | 30.0   |
| Vinyl chloride                        |       | 111.8 | 43.5 | 149.1 | 19.4 | 30.0   |
| o-Xylene                              |       | 89.4  | 80.2 | 131.0 | 3.6  | 30.0   |
| p,m-Xylene                            |       | 96.8  | 79.4 | 132.2 | 18.6 | 30.0   |
| Isopropylbenzene                      |       | 83.9  | 74.4 | 121.5 | 14.2 | 30.0   |
| Cyclohexane                           |       | 90.3  | 10.0 | 169.1 | 2.4  | 30.0   |
| 1,1-Dichloroethane                    |       | 102.9 | 71.5 | 126.2 | 3.3  | 30.0   |
| 1,1-Dichloroethene                    |       | 93.2  | 69.6 | 139.4 | 1.0  | 30.0   |
| Methyl Acetate                        |       | 80.5  | 64.7 | 125.4 | 0.9  | 30.0   |
| Methyl cyclohexane                    |       | 95.1  | 76.6 | 131.3 | 2.2  | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 93.0  | 75.1 | 135.9 | 3.0  | 30.0   |
| 1,2-Dibromoethane                     |       | 103.0 | 70.3 | 133.7 | 20.9 | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF221005W4 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/MSD

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 221005B9.4090803N, Parent Sample ID: 221005B9.4090802M

Run in Batch: 221005B9, Run Date: 10/05/2022 22:25, Prep Date: 10/05/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------------------|-------|-------|------|-------|------|--------|
| 1,1,2,2-Tetrachloroethane |       | 84.1  | 79.8 | 126.3 | 17.3 | 30.0   |
| cis-1,3-Dichloropropene   |       | 102.0 | 79.8 | 129.9 | 2.4  | 30.0   |
| trans-1,3-Dichloropropene |       | 99.5  | 74.0 | 131.3 | 13.8 | 30.0   |

## REPORT TO

|                                                     |  |              |                |
|-----------------------------------------------------|--|--------------|----------------|
| CONTACT NAME                                        |  | Alexis Crisp |                |
| COMPANY                                             |  | Arcadis      |                |
| ADDRESS                                             |  |              |                |
| 28550 Cabot Dr #500                                 |  |              |                |
| CITY                                                |  | STATE        | ZIP CODE       |
| NOVI                                                |  | MI           | 48377          |
| PHONE NO.                                           |  | CELL NO.     | P.O. NO.       |
|                                                     |  |              | 30112891.00006 |
| E-MAIL ADDRESS                                      |  | QUOTE NO.    |                |
| tiffany.linder@arcadis.com Alexis.Crisp@arcadis.com |  |              |                |

## CHAIN OF CUSTODY RECORD

|              |  |                                             |  |                               |    |
|--------------|--|---------------------------------------------|--|-------------------------------|----|
| CONTACT NAME |  | Accounts Payable                            |  | <input type="checkbox"/> SAME |    |
| COMPANY      |  | Arcadis                                     |  |                               |    |
| ADDRESS      |  | 630 Plaza Dr #600                           |  |                               |    |
| CITY         |  | Highlands Ranch                             |  | STATE                         | CO |
| PHONE NO.    |  | E-MAIL ADDRESS                              |  | ZIP CODE                      |    |
|              |  | accounts.payable.administration@arcadis.com |  | 80129                         |    |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| PROJECT NO./NAME<br><b>30112891.00006</b>                                                                                                                                                                                                         | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>Sommer Guy / Sommer Guy</b> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                       |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER _____ |                                                                       |

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

# Containers &amp; Preservatives

[illegible]

|                        |                           |                                             |         |       |
|------------------------|---------------------------|---------------------------------------------|---------|-------|
| RELINQUISHED BY:       | <i>Summer Day Arcades</i> | <input checked="" type="checkbox"/> Sampler | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                           |                                             | 9/29/22 | 13:00 |
| RECEIVED BY:           | <i>[Signature]</i>        |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                           |                                             | 9/29/22 | 13:00 |
| RELINQUISHED BY:       | <i>[Signature]</i>        |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                           |                                             | 9/29/22 | 16:00 |
| RECEIVED BY:           | <i>[Signature]</i>        |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                           |                                             | 9/29/22 | 16:00 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>2.9</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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



# Analytical Laboratory Report

Report ID: S40961.01(01)  
Generated on 10/10/2022

**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, Ian Drost

**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): S40961.01-S40961.02  
Project: Racer PNC / 30112891.00006  
Collected Date(s): 09/29/2022  
Submitted Date/Time: 09/30/2022 16:00  
Sampled by: Christina Weaver  
P.O. #: 30112891.00006

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Maya Murshak  
Technical Director





# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                                                |
|---------------|------------------------------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                                          |
| E245.1        | EPA Method 245.1 Revision 3.0                                          |
| E608.3        | EPA Method 608.3 December 2016                                         |
| N/A           | Not Applicable                                                         |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007                           |
| SW3510C       | SW 846 Method 3510C Revision 3 December 1996                           |
| SW5030C/8260C | SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003 |
| SW8260B - SIM | SW 846 Method 8260B Revision 2 December 1996 SIMs                      |
| SW8270D       | SW 846 Method 8270D Revision 4 February 2007                           |



# Analytical Laboratory Report

**Sample Summary (2 samples)**

| Sample ID | Sample Tag       | Matrix      | Collected Date/Time |
|-----------|------------------|-------------|---------------------|
| S40961.01 | Trip Blank       | Water       | 09/29/22 00:01      |
| S40961.02 | SWDF-1_GW-092922 | Groundwater | 09/29/22 14:20      |



# Analytical Laboratory Report

Lab Sample ID: S40961.01

Sample Tag: Trip Blank

Collected Date/Time: 09/29/2022 00:01

Matrix: Water

COC Reference: 154488

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 3.3               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/05/22 15:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 13:27, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40961.01 (continued)

Sample Tag: Trip Blank

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 13:27, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S40961.02

Sample Tag: SWDF-1\_GW-092922

Collected Date/Time: 09/29/2022 14:20

Matrix: Groundwater

COC Reference: 154488

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.3               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 3.3               | IR            |
| 3 | 1L Amber      | None            | Yes           | 3.3               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/06/22 13:27 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/05/22 15:00 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 10/04/22 15:00 | TAW     |       |
| PNA Extraction     | Completed | SW3510C | 10/06/22 11:00 | JWR     |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:56, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Arsenic   | 0.013  | 0.002 |     | mg/L  | 5        | 7440-38-2 |       |

Method: E200.8, Run Date: 10/05/22 12:08, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Barium    | 0.092        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.296        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | Not detected | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

Method: E245.1, Run Date: 10/06/22 15:53, Analyst: CTV

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

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/05/22 16:51, Analyst: JANB

| Parameter | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-----------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1016  | Not detected | 0.1 |     | ug/L  | 1        | 12674-11-2 |       |
| PCB-1221  | Not detected | 0.1 |     | ug/L  | 1        | 11104-28-2 |       |
| PCB-1232  | Not detected | 0.1 |     | ug/L  | 1        | 11141-16-5 |       |
| PCB-1242  | Not detected | 0.1 |     | ug/L  | 1        | 53469-21-9 |       |



# Analytical Laboratory Report

Lab Sample ID: S40961.02 (continued)  
Sample Tag: SWDF-1\_GW-092922

**PCB, Method: E608.3, Run Date: 10/05/22 16:51, Analyst: JANB (continued)**

| Parameter   | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-------------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1248    | Not detected | 0.1 |     | ug/L  | 1        | 12672-29-6 |       |
| PCB-1254    | Not detected | 0.1 |     | ug/L  | 1        | 11097-69-1 |       |
| PCB-1260    | Not detected | 0.1 |     | ug/L  | 1        | 11096-82-5 |       |
| PCB, Total* | Not detected | 0.1 |     | ug/L  | 1        | 1336-36-3  |       |

**Organics - Semi-Volatiles**

**Method: SW8270D, Run Date: 10/06/22 20:12, Analyst: PL**

| Parameter    | Result       | RL | MDL | Units | Dilution | CAS#    | Flags |
|--------------|--------------|----|-----|-------|----------|---------|-------|
| Phenanthrene | Not detected | 2  |     | ug/L  | 2        | 85-01-8 |       |

**Organics - Volatiles**

**Method: SW8260B - SIM, Run Date: 10/08/22 00:51, Analyst: KAG**

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 3      | 1  |     | ug/L  | 1        | 123-91-1 |       |



# Merit Laboratories Login Checklist

Lab Set ID:S40961

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: Racer PNC / 30112891.00006

Submitted:09/30/2022 16:00 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.3 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to:               |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_

## Merit Laboratories Bottle Preservation Check

Lab Set ID: S40961      Submitted: 09/30/2022 16:00

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: Racer PNC / 30112891.00006

Initial Preservation Check: 09/30/2022 16:36 MMC

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S40961.02 | 125ml Plastic HNO3    | <2        |        |          |       |

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



# Quality Control Report

Report ID: QC-S40961-01  
Generated on 10/11/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S40961.01-S40961.02  
Project: Racer PNC / 30112891.00006  
Submitted Date/Time: 09/30/2022 16:00  
Sampled by: Christina Weaver  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-3)  
Prep Batch Summary (Page 4)  
Surrogates per Lab Sample (Pages 5-6)  
Surrogates per QC Sample (Pages 7-10)  
Batch QC Results (Pages 11-22)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S40961.01**

Sample Tag: Trip Blank

Collected Date/Time: 09/29/2022 00:01

Matrix: Water

COC Reference: 154488

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/04/22 13:27 | 221003C7 | VF221003W5 | Yes  | BLK/LCS/LCSD |

# QC Report - Analysis Summary

**Lab Sample ID: S40961.02**

Sample Tag: SWDF-1\_GW-092922

Collected Date/Time: 09/29/2022 14:20

Matrix: Groundwater

COC Reference: 154488

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|-----------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b>Metals</b>                     |               |                |              |              |      |                |
| Antimony                          | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                           | E200.8        | 10/05/22 14:56 | MT4-22-1005B | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Barium                            | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                         | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                           | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Chromium                          | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                            | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Copper                            | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Lead                              | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Manganese                         | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Mercury                           | E245.1        | 10/06/22 15:53 | HG-22-1006A  | HGD-100622-2 | No   | BLK/LCS/MS/MSD |
| Nickel                            | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Selenium                          | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Silver                            | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Thallium                          | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                          | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Zinc                              | E200.8        | 10/05/22 12:08 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                |
| PCB                               | E608.3        | 10/05/22 16:51 | E221005      | PA221004W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Semi-Volatiles</b>  |               |                |              |              |      |                |
| Phenanthrene                      | SW8270D       | 10/06/22 20:12 | H221006      | SP221006W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                |
| 1,4-Dioxane                       | SW8260B - SIM | 10/08/22 00:51 | 221007B9     | VS221007W1   | Yes  | BLK/LCS/LCSD   |

## QC Report - Prep Batch Summary

### Metals, Prep Batch ID: HGD-100622-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID    |
|-----------|----------|--------|----------------|-------------|
| S40961.02 | Mercury  | E245.1 | 10/06/22 15:53 | HG-22-1006A |

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40961.02 | Antimony  | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Arsenic   | E200.8 | 10/05/22 14:56 | MT4-22-1005B |
| S40961.02 | Barium    | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Beryllium | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Cadmium   | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Chromium  | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Cobalt    | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Copper    | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Lead      | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Manganese | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Nickel    | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Selenium  | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Silver    | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Thallium  | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Vanadium  | E200.8 | 10/05/22 12:08 | MT4-22-1005A |
| S40961.02 | Zinc      | E200.8 | 10/05/22 12:08 | MT4-22-1005A |

### Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S40961.02 | PCB      | E608.3 | 10/05/22 16:51 | E221005  |

### Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis     | Method  | Run Date/Time  | Batch ID |
|-----------|--------------|---------|----------------|----------|
| S40961.02 | Phenanthrene | SW8270D | 10/06/22 20:12 | H221006  |

### Organics - Volatiles, Prep Batch ID: VF221003W5

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40961.01 | Volatile Organics - Arcadis | SW5030C/8260C | 10/04/22 13:27 | 221003C7 |

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis    | Method        | Run Date/Time  | Batch ID |
|-----------|-------------|---------------|----------------|----------|
| S40961.02 | 1,4-Dioxane | SW8260B - SIM | 10/08/22 00:51 | 221007B9 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40961.01

Sample Tag: Trip Blank

Collected Date/Time: 09/29/2022 00:01

Matrix: Water

COC Reference: 154488

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221003C7, Run Date: 10/04/2022 13:27, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 109.3 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 89.7  | 72.0 | 125.0 |
| Toluene-D8            |       | 99.2  | 89.0 | 112.0 |



## QC Report - Surrogates per Lab Sample

Lab Sample ID: **S40961.02**

Sample Tag: SWDF-1\_GW-092922

Collected Date/Time: 09/29/2022 14:20

Matrix: Groundwater

COC Reference: 154488

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221005, Run Date: 10/05/2022 16:51, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>64.00</b> | 34.1 | 137.1 |
| DCBP      |       | <b>81.30</b> | 30.0 | 138.6 |

### Organics - Semi-Volatiles, Analysis: Phenanthrene

Run in Batch: H221006, Run Date: 10/06/2022 20:12, Matrix: WW, Dilution: 2

| Surrogate        | Flags | %Rec        | LCL  | UCL   |
|------------------|-------|-------------|------|-------|
| Nitrobenzene-D5  |       | <b>75.2</b> | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | <b>75.7</b> | 10.0 | 116.0 |
| Terphenyl-D14    |       | <b>91.3</b> | 10.0 | 141.0 |

# QC Report - Surrogates per QC Sample

## Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22100503.sblk-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 81.20 | 34.1 | 137.1 |
| DCBP      |       | 75.50 | 30.0 | 138.6 |

### Blank (BLK)

Lab Sample ID: b22100504.sblk-w.01

Run in Batch: B221005, Run Date: 10/05/2022 10:12, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec   | LCL  | UCL   |
|-----------|-------|--------|------|-------|
| TCX       |       | 104.40 | 34.1 | 137.1 |
| DCBP      |       | 96.60  | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:53, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 62.20 | 34.1 | 137.1 |
| DCBP      |       | 66.60 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: b22100511.slcs-w.01

Run in Batch: B221005, Run Date: 10/05/2022 13:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 70.70 | 34.1 | 137.1 |
| DCBP      |       | 78.50 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100505.slcs-w.01d, Parent Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 11:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 64.00 | 34.1 | 137.1 |
| DCBP      |       | 66.80 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: b22100512.slcs-w.01d, Parent Sample ID: b22100511.slcs-w.01

Run in Batch: B221005, Run Date: 10/05/2022 13:28, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 83.20 | 34.1 | 137.1 |
| DCBP      |       | 90.90 | 30.0 | 138.6 |

## QC Report - Surrogates per QC Sample

### Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: H221006.BLKW06B

Run in Batch: H221006, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 57.0 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 52.1 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 52.5 | 10.0 | 141.0 |

#### Blank (BLK)

Lab Sample ID: H221006B.BLKW06B

Run in Batch: H221006B, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 54.2 | 10.0 | 116.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 67.9 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 64.3 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 85.9 | 10.0 | 141.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: H221006B.LCSW06A

Run in Batch: H221006B, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 67.0 | 10.0 | 116.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006.LCSDW06A, Parent Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 69.2 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 63.7 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 83.5 | 10.0 | 141.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006B.LCSDW06A, Parent Sample ID: H221006B.LCSW06A

Run in Batch: H221006B, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 66.4 | 10.0 | 116.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF221003W5

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221003C7.BLKW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 12:40, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>110.4</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>92.4</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.0</b> | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:05, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>92.7</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.9</b> | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221003C7.LCSDW03C, Parent Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:29, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>90.8</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>99.1</b>  | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VS221007W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: HGD-100622-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: HG-22-1006A.045.LRB

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:30, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL  | Units |
|---------|-------|------|------|-------|
| Mercury |       | ND   | 0.20 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HG-22-1006A.044.LCS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:27, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 101   | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1006A.049.MS, Parent Sample ID: S40939.01

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:44, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 2

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 106   | 80  | 120 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1006A.070.MS, Parent Sample ID: S41063.02

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 16:53, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 118   | 80  | 120 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1006A.050.MSD, Parent Sample ID: HG-22-1006A.049.MS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:47, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 2

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 107   | 80  | 120 | 2   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1006A.071.MSD, Parent Sample ID: HG-22-1006A.070.MS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 16:56, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 107   | 80  | 120 | 9   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-1005A.021.LRB

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:36, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL    | Units |
|-----------|-------|------|--------|-------|
| Antimony  |       | ND   | 0.001  | mg/L  |
| Barium    |       | ND   | 0.001  | mg/L  |
| Beryllium |       | ND   | 0.0002 | mg/L  |
| Cadmium   |       | ND   | 0.0001 | mg/L  |
| Chromium  |       | ND   | 0.001  | mg/L  |
| Cobalt    |       | ND   | 0.001  | mg/L  |
| Copper    |       | ND   | 0.001  | mg/L  |
| Lead      |       | ND   | 0.0006 | mg/L  |
| Manganese |       | ND   | 0.001  | mg/L  |
| Nickel    |       | ND   | 0.001  | mg/L  |
| Selenium  |       | ND   | 0.001  | mg/L  |
| Silver    |       | ND   | 0.0001 | mg/L  |
| Thallium  |       | ND   | 0.0004 | mg/L  |
| Vanadium  |       | ND   | 0.001  | mg/L  |
| Zinc      |       | ND   | 0.001  | mg/L  |

#### Blank (BLK)

Lab Sample ID: MT4-22-1005B.017.LRB

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:50, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL    | Units |
|---------|-------|------|--------|-------|
| Arsenic |       | ND   | 0.0004 | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005A.019.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:33, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 85  | 115 |
| Barium    |       | 99    | 85  | 115 |
| Beryllium |       | 98    | 85  | 115 |
| Cadmium   |       | 100   | 85  | 115 |
| Chromium  |       | 98    | 85  | 115 |
| Cobalt    |       | 99    | 85  | 115 |
| Copper    |       | 100   | 85  | 115 |
| Lead      |       | 102   | 85  | 115 |
| Manganese |       | 98    | 85  | 115 |
| Nickel    |       | 99    | 85  | 115 |
| Selenium  |       | 101   | 85  | 115 |
| Silver    |       | 99    | 85  | 115 |
| Thallium  |       | 100   | 85  | 115 |
| Vanadium  |       | 101   | 85  | 115 |
| Zinc      |       | 97    | 85  | 115 |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005B.016.LCS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:49, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 99    | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.042.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:22, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 75  | 125 |
| Barium    |       | 96    | 75  | 125 |
| Beryllium |       | 106   | 75  | 125 |
| Cadmium   |       | 94    | 75  | 125 |
| Chromium  |       | 98    | 75  | 125 |
| Cobalt    |       | 95    | 75  | 125 |
| Copper    |       | 90    | 75  | 125 |
| Lead      |       | 94    | 75  | 125 |
| Manganese |       | 91    | 75  | 125 |
| Nickel    |       | 98    | 75  | 125 |
| Selenium  |       | 104   | 75  | 125 |
| Silver    |       | 91    | 75  | 125 |
| Thallium  |       | 95    | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 97    | 75  | 125 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.062.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:58, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 103   | 75  | 125 |
| Barium    |       | 99    | 75  | 125 |
| Beryllium |       | 105   | 75  | 125 |
| Cadmium   |       | 102   | 75  | 125 |
| Chromium  |       | 102   | 75  | 125 |
| Cobalt    |       | 100   | 75  | 125 |
| Copper    |       | 97    | 75  | 125 |
| Lead      |       | 100   | 75  | 125 |
| Manganese |       | 98    | 75  | 125 |
| Nickel    |       | 101   | 75  | 125 |
| Selenium  |       | 107   | 75  | 125 |
| Silver    |       | 93    | 75  | 125 |
| Thallium  |       | 102   | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 104   | 75  | 125 |



# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.029.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 104   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.041.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:10, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 102   | 75  | 125 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.043.MSD, Parent Sample ID: MT4-22-1005A.042.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:23, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 99    | 75  | 125 | 2   | 20     |
| Barium    |       | 96    | 75  | 125 | 0   | 20     |
| Beryllium |       | 104   | 75  | 125 | 2   | 20     |
| Cadmium   |       | 97    | 75  | 125 | 2   | 20     |
| Chromium  |       | 99    | 75  | 125 | 2   | 20     |
| Cobalt    |       | 99    | 75  | 125 | 4   | 20     |
| Copper    |       | 94    | 75  | 125 | 4   | 20     |
| Lead      |       | 94    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 4   | 20     |
| Nickel    |       | 97    | 75  | 125 | 1   | 20     |
| Selenium  |       | 112   | 75  | 125 | 8   | 20     |
| Silver    |       | 91    | 75  | 125 | 1   | 20     |
| Thallium  |       | 96    | 75  | 125 | 1   | 20     |
| Vanadium  |       | 104   | 75  | 125 | 1   | 20     |
| Zinc      |       | 98    | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 100   | 75  | 125 | 2   | 20     |
| Barium    |       | 99    | 75  | 125 | 0   | 20     |
| Beryllium |       | 105   | 75  | 125 | 0   | 20     |
| Cadmium   |       | 100   | 75  | 125 | 1   | 20     |
| Chromium  |       | 100   | 75  | 125 | 2   | 20     |
| Cobalt    |       | 100   | 75  | 125 | 0   | 20     |
| Copper    |       | 98    | 75  | 125 | 1   | 20     |
| Lead      |       | 99    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 2   | 20     |
| Nickel    |       | 98    | 75  | 125 | 3   | 20     |
| Selenium  |       | 107   | 75  | 125 | 0   | 20     |
| Silver    |       | 91    | 75  | 125 | 3   | 20     |
| Thallium  |       | 100   | 75  | 125 | 1   | 20     |
| Vanadium  |       | 102   | 75  | 125 | 1   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Zinc    |       | 106   | 75  | 125 | 3   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.030.MSD, Parent Sample ID: MT4-22-1005B.029.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:01, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 104   | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.042.MSD, Parent Sample ID: MT4-22-1005B.041.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:11, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 102   | 75  | 125 | 0   | 20     |

## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22100503.sblk-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:53, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 70.22 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100505.slcs-w.01d, Parent Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 11:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------|-------|-------|------|-------|------|--------|
| PCB-1016/1260 |       | 79.24 | 50.0 | 125.0 | 12.1 | 20.0   |

## QC Report - Batch QC Results

### Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: H221006.BLKW06B

Run in Batch: H221006, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | Conc | RDL     | Units |
|--------------|-------|------|---------|-------|
| Phenanthrene |       | ND   | 0.00050 | mg/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | % Rec | LCL  | UCL   |
|--------------|-------|-------|------|-------|
| Phenanthrene |       | 74.6  | 36.4 | 143.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006.LCSDW06A, Parent Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------|-------|-------|------|-------|-----|--------|
| Phenanthrene |       | 73.2  | 36.4 | 143.0 | 1.9 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W5

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 221003C7.BLKW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 12:40, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W5 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Blank (BLK) (continued)

Lab Sample ID: 221003C7.BLKW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 12:40, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:05, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 97.1  | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 87.8  | 44.0 | 134.4 |
| Benzene                        |       | 104.2 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 97.7  | 80.4 | 128.2 |
| Bromoform                      |       | 92.8  | 69.4 | 128.0 |
| Bromomethane                   |       | 104.2 | 56.8 | 151.3 |
| Carbon disulfide               |       | 87.1  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 80.1  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 109.2 | 79.2 | 122.7 |
| Chloroethane                   |       | 97.1  | 53.4 | 149.4 |
| Chloroform                     |       | 102.3 | 78.4 | 124.0 |
| Chloromethane                  |       | 96.5  | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 91.7  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 105.4 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 94.5  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 101.3 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 103.8 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 104.3 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 104.4 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 96.5  | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 82.2  | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 95.6  | 73.6 | 129.3 |
| Ethylbenzene                   |       | 104.8 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 90.2  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 94.5  | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 100.3 | 73.2 | 122.4 |
| Methylene chloride             |       | 103.3 | 73.3 | 121.1 |
| Styrene                        |       | 108.2 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 87.0  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 103.8 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 110.5 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 101.3 | 74.5 | 124.5 |
| Toluene                        |       | 104.1 | 79.8 | 124.5 |
| Trichloroethene                |       | 100.1 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 82.0  | 59.7 | 151.8 |
| Vinyl chloride                 |       | 95.4  | 43.5 | 149.1 |
| o-Xylene                       |       | 107.2 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 105.0 | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W5 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:05, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 105.4 | 74.4 | 121.5 |
| Cyclohexane                           |       | 78.5  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 98.5  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 86.8  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 91.8  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 89.7  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 84.6  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 103.5 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 104.6 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 94.7  | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 90.9  | 74.0 | 131.3 |

## Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221003C7.LCSDW03C, Parent Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:29, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|--------------------------------|-------|-------|------|-------|------|--------|
| Acetone                        |       | 99.1  | 29.9 | 161.5 | 2.0  | 30.0   |
| 2-Butanone (MEK)               |       | 91.5  | 44.0 | 134.4 | 4.2  | 30.0   |
| Benzene                        |       | 108.2 | 79.9 | 124.9 | 3.8  | 30.0   |
| Bromodichloromethane           |       | 104.1 | 80.4 | 128.2 | 6.4  | 30.0   |
| Bromoform                      |       | 101.7 | 69.4 | 128.0 | 9.2  | 30.0   |
| Bromomethane                   |       | 104.1 | 56.8 | 151.3 | 0.1  | 30.0   |
| Carbon disulfide               |       | 88.5  | 63.8 | 137.4 | 1.6  | 30.0   |
| Carbon tetrachloride           |       | 82.3  | 72.6 | 133.0 | 2.7  | 30.0   |
| Chlorobenzene                  |       | 116.5 | 79.2 | 122.7 | 6.4  | 30.0   |
| Chloroethane                   |       | 99.2  | 53.4 | 149.4 | 2.2  | 30.0   |
| Chloroform                     |       | 106.2 | 78.4 | 124.0 | 3.7  | 30.0   |
| Chloromethane                  |       | 99.3  | 23.8 | 166.5 | 2.9  | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 101.3 | 21.2 | 189.4 | 10.0 | 30.0   |
| 1,2-Dichlorobenzene            |       | 113.5 | 10.0 | 166.2 | 7.4  | 30.0   |
| 1,2-Dichloroethane             |       | 100.4 | 76.0 | 126.3 | 6.1  | 30.0   |
| 1,2-Dichloropropane            |       | 106.1 | 78.6 | 126.4 | 4.7  | 30.0   |
| 1,3-Dichlorobenzene            |       | 110.9 | 77.0 | 131.3 | 6.6  | 30.0   |
| 1,4-Dichlorobenzene            |       | 111.2 | 20.7 | 137.7 | 6.4  | 30.0   |
| cis-1,2-Dichloroethene         |       | 108.3 | 76.6 | 122.1 | 3.7  | 30.0   |
| Dibromochloromethane           |       | 105.2 | 74.6 | 127.2 | 8.6  | 30.0   |
| Dichlorodifluoromethane        |       | 83.1  | 10.0 | 222.8 | 1.1  | 30.0   |
| trans-1,2-Dichloroethene       |       | 98.3  | 73.6 | 129.3 | 2.7  | 30.0   |
| Ethylbenzene                   |       | 110.6 | 79.5 | 129.1 | 5.4  | 30.0   |
| 2-Hexanone                     |       | 95.9  | 55.4 | 136.9 | 6.1  | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 98.2  | 71.6 | 125.2 | 3.8  | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 105.8 | 73.2 | 122.4 | 5.4  | 30.0   |
| Methylene chloride             |       | 108.2 | 73.3 | 121.1 | 4.7  | 30.0   |
| Styrene                        |       | 114.7 | 69.5 | 126.7 | 5.8  | 30.0   |
| 1,1,1-Trichloroethane          |       | 88.9  | 79.4 | 130.9 | 2.1  | 30.0   |
| 1,1,2-Trichloroethane          |       | 111.8 | 78.7 | 123.1 | 7.4  | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W5 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 221003C7.LCSDW03C, Parent Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:29, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 118.9 | 27.4 | 143.4 | 7.3 | 30.0   |
| Tetrachloroethene                     |       | 104.0 | 74.5 | 124.5 | 2.6 | 30.0   |
| Toluene                               |       | 107.9 | 79.8 | 124.5 | 3.6 | 30.0   |
| Trichloroethene                       |       | 104.8 | 79.7 | 124.2 | 4.5 | 30.0   |
| Trichlorofluoromethane                |       | 83.0  | 59.7 | 151.8 | 1.1 | 30.0   |
| Vinyl chloride                        |       | 97.2  | 43.5 | 149.1 | 1.9 | 30.0   |
| o-Xylene                              |       | 112.1 | 80.2 | 131.0 | 4.4 | 30.0   |
| p,m-Xylene                            |       | 110.3 | 79.4 | 132.2 | 4.9 | 30.0   |
| Isopropylbenzene                      |       | 109.8 | 74.4 | 121.5 | 4.2 | 30.0   |
| Cyclohexane                           |       | 79.5  | 10.0 | 169.1 | 1.2 | 30.0   |
| 1,1-Dichloroethane                    |       | 102.5 | 71.5 | 126.2 | 4.0 | 30.0   |
| 1,1-Dichloroethene                    |       | 89.2  | 69.6 | 139.4 | 2.7 | 30.0   |
| Methyl Acetate                        |       | 97.1  | 64.7 | 125.4 | 5.6 | 30.0   |
| Methyl cyclohexane                    |       | 90.0  | 76.6 | 131.3 | 0.3 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 84.4  | 75.1 | 135.9 | 0.2 | 30.0   |
| 1,2-Dibromoethane                     |       | 113.9 | 70.3 | 133.7 | 9.6 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 112.9 | 79.8 | 126.3 | 7.7 | 30.0   |
| cis-1,3-Dichloropropene               |       | 100.8 | 79.8 | 129.9 | 6.2 | 30.0   |
| trans-1,3-Dichloropropene             |       | 97.5  | 74.0 | 131.3 | 7.0 | 30.0   |



## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | Conc | RDL  | Units |
|-------------|-------|------|------|-------|
| 1,4-Dioxane | *     | 0.33 | 0.02 | ug/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   |
|-------------|-------|-------|------|-------|
| 1,4-Dioxane |       | 90.5  | 70.0 | 130.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-------------|-------|-------|------|-------|-----|--------|
| 1,4-Dioxane |       | 90.2  | 70.0 | 130.0 | 0.4 | 30.0   |

## REPORT TO

|                                                        |          |                     |  |
|--------------------------------------------------------|----------|---------------------|--|
| CONTACT NAME                                           |          | ALEXIS CRISP        |  |
| COMPANY                                                |          | ARCADIS             |  |
| ADDRESS                                                |          | 28550 CABOT DR #500 |  |
| CITY                                                   | STATE    | ZIP CODE            |  |
| NOVI                                                   | MI       | 48377               |  |
| PHONE NO.                                              | CELL NO. | P.O. NO.            |  |
| —                                                      | —        | 30112891.00006      |  |
| E-MAIL ADDRESS                                         |          | QUOTE NO.           |  |
| ALEXIS.CRISP@ARCADIS.COM<br>JEFFREY.LINDER@ARCADIS.COM |          | —                   |  |

## CHAIN OF CUSTODY RECORD

|              |                |                               |          |
|--------------|----------------|-------------------------------|----------|
| CONTACT NAME |                | <input type="checkbox"/> SAME |          |
| COMPANY      |                |                               |          |
| ADDRESS      |                |                               |          |
| CITY         |                | STATE                         | ZIP CODE |
| PHONE NO.    | E-MAIL ADDRESS |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                             |                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| PROJECT NO./NAME<br><b>RACER PNC / 30112891.00006</b>                                                                                                                                                                       | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>CHRISTINA WEAVER</b> <i>[Signature]</i> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                              |                                                                                   |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input type="checkbox"/> EDD <input type="checkbox"/> OTHER _____ |                                                                                   |

## ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

|        |           |                   |               |         |          |          |
|--------|-----------|-------------------|---------------|---------|----------|----------|
| 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]

|                        |                              |         |      |
|------------------------|------------------------------|---------|------|
| RELINQUISHED BY:       | <i>[Signature]</i> / ARCADIS | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                              | 9/29/22 | 1500 |
| RECEIVED BY:           | <i>[Signature]</i> / Arcadis | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                              | 9/29/22 | 1500 |
| RELINQUISHED BY:       | <i>[Signature]</i> / Arcadis | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                              | 9/30/22 | 1220 |
| RECEIVED BY:           | <i>[Signature]</i>           | DATE    | TIME |
| SIGNATURE/ORGANIZATION |                              | 9/30/22 | 1220 |

|                        |                                                                         |          |        |                  |  |
|------------------------|-------------------------------------------------------------------------|----------|--------|------------------|--|
| RELINQUISHED BY:       |                                                                         | DATE     |        | TIME             |  |
| SIGNATURE/ORGANIZATION |                                                                         | 9/30/21  |        | 16:00            |  |
| RECEIVED BY:           |                                                                         | DATE     |        | TIME             |  |
| SIGNATURE/ORGANIZATION |                                                                         | 9/30/22  |        | 1600             |  |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL |  |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        | 3.3              |  |



# Analytical Laboratory Report

Report ID: S40971.01(01)  
Generated on 10/10/2022

**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, Ian Drost

**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): S40971.01-S40971.02  
Project: 30112891.00006 / RACER PNC  
Collected Date(s): 09/29/2022  
Submitted Date/Time: 09/30/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

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- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report



# Analytical Laboratory Report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                                                |
|---------------|------------------------------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                                          |
| E245.1        | EPA Method 245.1 Revision 3.0                                          |
| E608.3        | EPA Method 608.3 December 2016                                         |
| N/A           | Not Applicable                                                         |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007                           |
| SW3510C       | SW 846 Method 3510C Revision 3 December 1996                           |
| SW5030C/8260C | SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003 |
| SW8260B - SIM | SW 846 Method 8260B Revision 2 December 1996 SIMs                      |
| SW8270D       | SW 846 Method 8270D Revision 4 February 2007                           |



# Analytical Laboratory Report

**Sample Summary (2 samples)**

| Sample ID | Sample Tag        | Matrix      | Collected Date/Time |
|-----------|-------------------|-------------|---------------------|
| S40971.01 | MWOS-06_GW-092922 | Groundwater | 09/29/22 14:40      |
| S40971.02 | tripblank_30      | Water       | 09/29/22 00:01      |



# Analytical Laboratory Report

Lab Sample ID: S40971.01

Sample Tag: MWOS-06\_GW-092922

Collected Date/Time: 09/29/2022 14:40

Matrix: Groundwater

COC Reference: 154485

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.3               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 3.3               | IR            |
| 3 | 1L Amber      | None            | Yes           | 3.3               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/06/22 13:27 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/10/22 12:30 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 10/04/22 15:00 | TAW     |       |
| PNA Extraction     | Completed | SW3510C | 10/06/22 11:00 | JWR     |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:57, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Arsenic   | 0.008  | 0.002 |     | mg/L  | 5        | 7440-38-2 |       |

Method: E200.8, Run Date: 10/05/22 12:11, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Barium    | 0.110        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.315        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | Not detected | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

Method: E245.1, Run Date: 10/06/22 15:57, Analyst: CTV

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

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/05/22 17:03, Analyst: JANB

| Parameter | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-----------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1016  | Not detected | 0.1 |     | ug/L  | 1        | 12674-11-2 |       |
| PCB-1221  | Not detected | 0.1 |     | ug/L  | 1        | 11104-28-2 |       |
| PCB-1232  | Not detected | 0.1 |     | ug/L  | 1        | 11141-16-5 |       |
| PCB-1242  | Not detected | 0.1 |     | ug/L  | 1        | 53469-21-9 |       |





# Analytical Laboratory Report

Lab Sample ID: S40971.01 (continued)

Sample Tag: MWOS-06\_GW-092922

**PCB, Method: E608.3, Run Date: 10/05/22 17:03, Analyst: JANB (continued)**

| Parameter   | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-------------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1248    | Not detected | 0.1 |     | ug/L  | 1        | 12672-29-6 |       |
| PCB-1254    | Not detected | 0.1 |     | ug/L  | 1        | 11097-69-1 |       |
| PCB-1260    | Not detected | 0.1 |     | ug/L  | 1        | 11096-82-5 |       |
| PCB, Total* | Not detected | 0.1 |     | ug/L  | 1        | 1336-36-3  |       |

**Organics - Semi-Volatiles**

**Method: SW8270D, Run Date: 10/06/22 20:30, Analyst: PL**

| Parameter    | Result       | RL | MDL | Units | Dilution | CAS#    | Flags |
|--------------|--------------|----|-----|-------|----------|---------|-------|
| Phenanthrene | Not detected | 2  |     | ug/L  | 2        | 85-01-8 |       |

**Organics - Volatiles**

**Method: SW8260B - SIM, Run Date: 10/08/22 01:13, Analyst: KAG**

| Parameter    | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | Not detected | 1  |     | ug/L  | 1        | 123-91-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S40971.02

Sample Tag: tripblank\_30

Collected Date/Time: 09/29/2022 00:01

Matrix: Water

COC Reference: 154485

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 3.3               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/10/22 12:30 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 01:36, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S40971.02 (continued)

Sample Tag: tripblank\_30

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 01:36, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40971

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / RACER PNC

Submitted:09/30/2022 16:00 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.3 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_

## Merit Laboratories Bottle Preservation Check

Lab Set ID: S40971      Submitted: 09/30/2022 16:00

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / RACER PNC

Initial Preservation Check: 09/30/2022 16:54 MMC

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S40971.01 | 125ml Plastic HNO3    | <2        |        |          |       |

## REPORT TO

|                                                        |  |              |                |
|--------------------------------------------------------|--|--------------|----------------|
| CONTACT NAME                                           |  | Alexis Crisp |                |
| COMPANY                                                |  | Arcadis      |                |
| ADDRESS                                                |  |              |                |
| 28550 Cabot Dr #500                                    |  |              |                |
| CITY                                                   |  | STATE        | ZIP CODE       |
| Novi                                                   |  | MI           | 48317          |
| PHONE NO.                                              |  | CELL NO.     | P.O. NO.       |
|                                                        |  |              | 30112891.00006 |
| E-MAIL ADDRESS                                         |  | QUOTE NO.    |                |
| tiffany.linder@arcadis.com<br>Alexis.Crisp@arcadis.com |  |              |                |

## CHAIN OF CUSTODY RECORD

|              |  |                                                               |  |                               |       |
|--------------|--|---------------------------------------------------------------|--|-------------------------------|-------|
| CONTACT NAME |  | Accounts Payable                                              |  | <input type="checkbox"/> SAME |       |
| COMPANY      |  | Arcadis                                                       |  |                               |       |
| ADDRESS      |  | 630 Plaza Dr #600                                             |  |                               |       |
| CITY         |  | Highlands Ranch                                               |  | STATE                         | CO    |
|              |  |                                                               |  | ZIP CODE                      | 80129 |
| PHONE NO.    |  | E-MAIL ADDRESS<br>accounts.payable.administration@arcadis.com |  |                               |       |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| PROJECT NO./NAME<br><b>3012391.00006/Racer PNC</b>                                                                                                                                                                                                | SAMPLER(S) - PLEASE PRINT(SIGN NAME<br><b>Sommer Guy / Samthuf</b> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                    |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

## Certifications

☐ OHIO VAP    ☐ Drinking Water☐ DoD ☐ NPDES

## Project Locations

☐ Detroit      ☐ New York☐ Other

Special Instructions

[illegible]

|                        |                             |                                             |         |       |
|------------------------|-----------------------------|---------------------------------------------|---------|-------|
| RELINQUISHED BY:       | <i>Summer Day / Arcadis</i> | <input checked="" type="checkbox"/> Sampler | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/30/22 | 12:20 |
| RECEIVED BY:           | <i>D. Miller</i>            |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/30/22 | 12:28 |
| RELINQUISHED BY:       | <i>D. Miller</i>            |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/30/22 | 16:00 |
| RECEIVED BY:           | <i>M. Valente</i>           |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/30/22 | 1600  |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.3</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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

Rev. 1.26.22



# Quality Control Report

Report ID: QC-S40971-01  
Generated on 10/11/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S40971.01-S40971.02  
Project: 30112891.00006 / RACER PNC  
Submitted Date/Time: 09/30/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-3)  
Prep Batch Summary (Page 4)  
Surrogates per Lab Sample (Pages 5-6)  
Surrogates per QC Sample (Pages 7-10)  
Batch QC Results (Pages 11-22)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

# QC Report - Analysis Summary

Lab Sample ID: S40971.01

Sample Tag: MWOS-06\_GW-092922

Collected Date/Time: 09/29/2022 14:40

Matrix: Groundwater

COC Reference: 154485

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|-----------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b>Metals</b>                     |               |                |              |              |      |                |
| Antimony                          | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                           | E200.8        | 10/05/22 14:57 | MT4-22-1005B | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Barium                            | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                         | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                           | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Chromium                          | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                            | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Copper                            | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Lead                              | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Manganese                         | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Mercury                           | E245.1        | 10/06/22 15:57 | HG-22-1006A  | HGD-100622-2 | No   | BLK/LCS/MS/MSD |
| Nickel                            | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Selenium                          | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Silver                            | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Thallium                          | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                          | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Zinc                              | E200.8        | 10/05/22 12:11 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                |
| PCB                               | E608.3        | 10/05/22 17:03 | E221005      | PA221004W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Semi-Volatiles</b>  |               |                |              |              |      |                |
| Phenanthrene                      | SW8270D       | 10/06/22 20:30 | H221006      | SP221006W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                |
| 1,4-Dioxane                       | SW8260B - SIM | 10/08/22 01:13 | 221007B9     | VS221007W1   | Yes  | BLK/LCS/LCSD   |



## QC Report - Analysis Summary

Lab Sample ID: S40971.02

Sample Tag: tripblank\_30

Collected Date/Time: 09/29/2022 00:01

Matrix: Water

COC Reference: 154485

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/04/22 01:36 | 221003B7 | VF221003W3 | Yes  | BLK/LCS/LCSD |

## QC Report - Prep Batch Summary

### Metals, Prep Batch ID: HGD-100622-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID    |
|-----------|----------|--------|----------------|-------------|
| S40971.01 | Mercury  | E245.1 | 10/06/22 15:57 | HG-22-1006A |

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40971.01 | Antimony  | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Arsenic   | E200.8 | 10/05/22 14:57 | MT4-22-1005B |
| S40971.01 | Barium    | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Beryllium | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Cadmium   | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Chromium  | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Cobalt    | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Copper    | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Lead      | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Manganese | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Nickel    | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Selenium  | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Silver    | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Thallium  | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Vanadium  | E200.8 | 10/05/22 12:11 | MT4-22-1005A |
| S40971.01 | Zinc      | E200.8 | 10/05/22 12:11 | MT4-22-1005A |

### Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S40971.01 | PCB      | E608.3 | 10/05/22 17:03 | E221005  |

### Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis     | Method  | Run Date/Time  | Batch ID |
|-----------|--------------|---------|----------------|----------|
| S40971.01 | Phenanthrene | SW8270D | 10/06/22 20:30 | H221006  |

### Organics - Volatiles, Prep Batch ID: VF221003W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40971.02 | Volatile Organics - Arcadis | SW5030C/8260C | 10/04/22 01:36 | 221003B7 |

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis    | Method        | Run Date/Time  | Batch ID |
|-----------|-------------|---------------|----------------|----------|
| S40971.01 | 1,4-Dioxane | SW8260B - SIM | 10/08/22 01:13 | 221007B9 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40971.01

Sample Tag: MWOS-06\_GW-092922

Collected Date/Time: 09/29/2022 14:40

Matrix: Groundwater

COC Reference: 154485

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221005, Run Date: 10/05/2022 17:03, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 68.60 | 34.1 | 137.1 |
| DCBP      |       | 77.50 | 30.0 | 138.6 |

### Organics - Semi-Volatiles, Analysis: Phenanthrene

Run in Batch: H221006, Run Date: 10/06/2022 20:30, Matrix: WW, Dilution: 2

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 79.9 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 79.7 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 98.2 | 10.0 | 141.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40971.02

Sample Tag: tripblank\_30

Collected Date/Time: 09/29/2022 00:01

Matrix: Water

COC Reference: 154485

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221003B7, Run Date: 10/04/2022 01:36, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 109.1 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 104.2 | 72.0 | 125.0 |
| Toluene-D8            |       | 102.2 | 89.0 | 112.0 |

# QC Report - Surrogates per QC Sample

## Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22100503.sblk-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 81.20 | 34.1 | 137.1 |
| DCBP      |       | 75.50 | 30.0 | 138.6 |

### Blank (BLK)

Lab Sample ID: b22100504.sblk-w.01

Run in Batch: B221005, Run Date: 10/05/2022 10:12, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec   | LCL  | UCL   |
|-----------|-------|--------|------|-------|
| TCX       |       | 104.40 | 34.1 | 137.1 |
| DCBP      |       | 96.60  | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:53, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 62.20 | 34.1 | 137.1 |
| DCBP      |       | 66.60 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: b22100511.slcs-w.01

Run in Batch: B221005, Run Date: 10/05/2022 13:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 70.70 | 34.1 | 137.1 |
| DCBP      |       | 78.50 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100505.slcs-w.01d, Parent Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 11:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 64.00 | 34.1 | 137.1 |
| DCBP      |       | 66.80 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: b22100512.slcs-w.01d, Parent Sample ID: b22100511.slcs-w.01

Run in Batch: B221005, Run Date: 10/05/2022 13:28, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 83.20 | 34.1 | 137.1 |
| DCBP      |       | 90.90 | 30.0 | 138.6 |

# QC Report - Surrogates per QC Sample

## Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: H221006.BLKW06B

Run in Batch: H221006, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 57.0 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 52.1 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 52.5 | 10.0 | 141.0 |

### Blank (BLK)

Lab Sample ID: H221006B.BLKW06B

Run in Batch: H221006B, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 54.2 | 10.0 | 116.0 |

### Laboratory Control Sample (LCS)

Lab Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 67.9 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 64.3 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 85.9 | 10.0 | 141.0 |

### Laboratory Control Sample (LCS)

Lab Sample ID: H221006B.LCSW06A

Run in Batch: H221006B, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 67.0 | 10.0 | 116.0 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006.LCSDW06A, Parent Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 69.2 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 63.7 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 83.5 | 10.0 | 141.0 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006B.LCSDW06A, Parent Sample ID: H221006B.LCSW06A

Run in Batch: H221006B, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 66.4 | 10.0 | 116.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF221003W3

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221003B7.BLKW03B

Run in Batch: 221003B7, Run Date: 10/04/2022 00:25, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.0</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>112.8</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.4</b> | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 22:52, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>106.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>120.0</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>103.8</b> | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221003B7.LCSDW03B, Parent Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 23:15, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>106.1</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>113.1</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.8</b> | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VS221007W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |



## QC Report - Batch QC Results

### Metals, Prep Batch ID: HGD-100622-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: HG-22-1006A.045.LRB

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:30, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL  | Units |
|---------|-------|------|------|-------|
| Mercury |       | ND   | 0.20 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HG-22-1006A.044.LCS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:27, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 101   | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1006A.049.MS, Parent Sample ID: S40939.01

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:44, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 2

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 106   | 80  | 120 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1006A.070.MS, Parent Sample ID: S41063.02

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 16:53, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 118   | 80  | 120 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1006A.050.MSD, Parent Sample ID: HG-22-1006A.049.MS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:47, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 2

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 107   | 80  | 120 | 2   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1006A.071.MSD, Parent Sample ID: HG-22-1006A.070.MS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 16:56, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 107   | 80  | 120 | 9   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-1005A.021.LRB

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:36, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL    | Units |
|-----------|-------|------|--------|-------|
| Antimony  |       | ND   | 0.001  | mg/L  |
| Barium    |       | ND   | 0.001  | mg/L  |
| Beryllium |       | ND   | 0.0002 | mg/L  |
| Cadmium   |       | ND   | 0.0001 | mg/L  |
| Chromium  |       | ND   | 0.001  | mg/L  |
| Cobalt    |       | ND   | 0.001  | mg/L  |
| Copper    |       | ND   | 0.001  | mg/L  |
| Lead      |       | ND   | 0.0006 | mg/L  |
| Manganese |       | ND   | 0.001  | mg/L  |
| Nickel    |       | ND   | 0.001  | mg/L  |
| Selenium  |       | ND   | 0.001  | mg/L  |
| Silver    |       | ND   | 0.0001 | mg/L  |
| Thallium  |       | ND   | 0.0004 | mg/L  |
| Vanadium  |       | ND   | 0.001  | mg/L  |
| Zinc      |       | ND   | 0.001  | mg/L  |

#### Blank (BLK)

Lab Sample ID: MT4-22-1005B.017.LRB

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:50, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL    | Units |
|---------|-------|------|--------|-------|
| Arsenic |       | ND   | 0.0004 | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005A.019.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:33, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 85  | 115 |
| Barium    |       | 99    | 85  | 115 |
| Beryllium |       | 98    | 85  | 115 |
| Cadmium   |       | 100   | 85  | 115 |
| Chromium  |       | 98    | 85  | 115 |
| Cobalt    |       | 99    | 85  | 115 |
| Copper    |       | 100   | 85  | 115 |
| Lead      |       | 102   | 85  | 115 |
| Manganese |       | 98    | 85  | 115 |
| Nickel    |       | 99    | 85  | 115 |
| Selenium  |       | 101   | 85  | 115 |
| Silver    |       | 99    | 85  | 115 |
| Thallium  |       | 100   | 85  | 115 |
| Vanadium  |       | 101   | 85  | 115 |
| Zinc      |       | 97    | 85  | 115 |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005B.016.LCS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:49, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 99    | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.042.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:22, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 75  | 125 |
| Barium    |       | 96    | 75  | 125 |
| Beryllium |       | 106   | 75  | 125 |
| Cadmium   |       | 94    | 75  | 125 |
| Chromium  |       | 98    | 75  | 125 |
| Cobalt    |       | 95    | 75  | 125 |
| Copper    |       | 90    | 75  | 125 |
| Lead      |       | 94    | 75  | 125 |
| Manganese |       | 91    | 75  | 125 |
| Nickel    |       | 98    | 75  | 125 |
| Selenium  |       | 104   | 75  | 125 |
| Silver    |       | 91    | 75  | 125 |
| Thallium  |       | 95    | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 97    | 75  | 125 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.062.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:58, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 103   | 75  | 125 |
| Barium    |       | 99    | 75  | 125 |
| Beryllium |       | 105   | 75  | 125 |
| Cadmium   |       | 102   | 75  | 125 |
| Chromium  |       | 102   | 75  | 125 |
| Cobalt    |       | 100   | 75  | 125 |
| Copper    |       | 97    | 75  | 125 |
| Lead      |       | 100   | 75  | 125 |
| Manganese |       | 98    | 75  | 125 |
| Nickel    |       | 101   | 75  | 125 |
| Selenium  |       | 107   | 75  | 125 |
| Silver    |       | 93    | 75  | 125 |
| Thallium  |       | 102   | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 104   | 75  | 125 |

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.029.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 104   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.041.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:10, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 102   | 75  | 125 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.043.MSD, Parent Sample ID: MT4-22-1005A.042.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:23, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 99    | 75  | 125 | 2   | 20     |
| Barium    |       | 96    | 75  | 125 | 0   | 20     |
| Beryllium |       | 104   | 75  | 125 | 2   | 20     |
| Cadmium   |       | 97    | 75  | 125 | 2   | 20     |
| Chromium  |       | 99    | 75  | 125 | 2   | 20     |
| Cobalt    |       | 99    | 75  | 125 | 4   | 20     |
| Copper    |       | 94    | 75  | 125 | 4   | 20     |
| Lead      |       | 94    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 4   | 20     |
| Nickel    |       | 97    | 75  | 125 | 1   | 20     |
| Selenium  |       | 112   | 75  | 125 | 8   | 20     |
| Silver    |       | 91    | 75  | 125 | 1   | 20     |
| Thallium  |       | 96    | 75  | 125 | 1   | 20     |
| Vanadium  |       | 104   | 75  | 125 | 1   | 20     |
| Zinc      |       | 98    | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 100   | 75  | 125 | 2   | 20     |
| Barium    |       | 99    | 75  | 125 | 0   | 20     |
| Beryllium |       | 105   | 75  | 125 | 0   | 20     |
| Cadmium   |       | 100   | 75  | 125 | 1   | 20     |
| Chromium  |       | 100   | 75  | 125 | 2   | 20     |
| Cobalt    |       | 100   | 75  | 125 | 0   | 20     |
| Copper    |       | 98    | 75  | 125 | 1   | 20     |
| Lead      |       | 99    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 2   | 20     |
| Nickel    |       | 98    | 75  | 125 | 3   | 20     |
| Selenium  |       | 107   | 75  | 125 | 0   | 20     |
| Silver    |       | 91    | 75  | 125 | 3   | 20     |
| Thallium  |       | 100   | 75  | 125 | 1   | 20     |
| Vanadium  |       | 102   | 75  | 125 | 1   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Zinc    |       | 106   | 75  | 125 | 3   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.030.MSD, Parent Sample ID: MT4-22-1005B.029.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:01, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 104   | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.042.MSD, Parent Sample ID: MT4-22-1005B.041.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:11, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 102   | 75  | 125 | 0   | 20     |

## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA221004W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22100503.sblk-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:13, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 10:53, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 70.22 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100505.slcs-w.01d, Parent Sample ID: a22100504.slcs-w.01

Run in Batch: A221005, Run Date: 10/05/2022 11:07, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|---------------|-------|-------|------|-------|------|--------|
| PCB-1016/1260 |       | 79.24 | 50.0 | 125.0 | 12.1 | 20.0   |

## QC Report - Batch QC Results

### Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: H221006.BLKW06B

Run in Batch: H221006, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | Conc | RDL     | Units |
|--------------|-------|------|---------|-------|
| Phenanthrene |       | ND   | 0.00050 | mg/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | % Rec | LCL  | UCL   |
|--------------|-------|-------|------|-------|
| Phenanthrene |       | 74.6  | 36.4 | 143.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006.LCSDW06A, Parent Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------|-------|-------|------|-------|-----|--------|
| Phenanthrene |       | 73.2  | 36.4 | 143.0 | 1.9 | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 221003B7.BLKW03B

Run in Batch: 221003B7, Run Date: 10/04/2022 00:25, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Blank (BLK) (continued)

Lab Sample ID: 221003B7.BLKW03B

Run in Batch: 221003B7, Run Date: 10/04/2022 00:25, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 22:52, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 105.0 | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 103.3 | 44.0 | 134.4 |
| Benzene                        |       | 103.4 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 97.7  | 80.4 | 128.2 |
| Bromoform                      |       | 91.4  | 69.4 | 128.0 |
| Bromomethane                   |       | 126.1 | 56.8 | 151.3 |
| Carbon disulfide               |       | 109.2 | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 88.6  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 105.3 | 79.2 | 122.7 |
| Chloroethane                   |       | 122.0 | 53.4 | 149.4 |
| Chloroform                     |       | 121.5 | 78.4 | 124.0 |
| Chloromethane                  |       | 120.4 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 93.4  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 102.9 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 93.3  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 100.2 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 101.0 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 101.3 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         | *     | 124.4 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 95.2  | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 119.9 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 116.3 | 73.6 | 129.3 |
| Ethylbenzene                   |       | 102.2 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 89.5  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 93.4  | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 120.8 | 73.2 | 122.4 |
| Methylene chloride             | *     | 122.7 | 73.3 | 121.1 |
| Styrene                        |       | 103.5 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 111.5 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 102.6 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 110.0 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 106.1 | 74.5 | 124.5 |
| Toluene                        |       | 103.6 | 79.8 | 124.5 |
| Trichloroethene                |       | 102.4 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 114.3 | 59.7 | 151.8 |
| Vinyl chloride                 |       | 126.2 | 43.5 | 149.1 |
| o-Xylene                       |       | 102.8 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 102.1 | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 22:52, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 104.3 | 74.4 | 121.5 |
| Cyclohexane                           |       | 106.9 | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 117.8 | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 113.7 | 69.6 | 139.4 |
| Methyl Acetate                        |       | 109.7 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 99.9  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 118.3 | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 101.4 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 101.0 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 99.0  | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 94.8  | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221003B7.LCSDW03B, Parent Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 23:15, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------------------------|-------|-------|------|-------|-----|--------|
| Acetone                        |       | 96.1  | 29.9 | 161.5 | 8.9 | 30.0   |
| 2-Butanone (MEK)               |       | 94.4  | 44.0 | 134.4 | 9.0 | 30.0   |
| Benzene                        |       | 105.2 | 79.9 | 124.9 | 1.8 | 30.0   |
| Bromodichloromethane           |       | 99.8  | 80.4 | 128.2 | 2.1 | 30.0   |
| Bromoform                      |       | 92.7  | 69.4 | 128.0 | 1.3 | 30.0   |
| Bromomethane                   |       | 127.9 | 56.8 | 151.3 | 1.4 | 30.0   |
| Carbon disulfide               |       | 112.0 | 63.8 | 137.4 | 2.6 | 30.0   |
| Carbon tetrachloride           |       | 89.2  | 72.6 | 133.0 | 0.7 | 30.0   |
| Chlorobenzene                  |       | 110.4 | 79.2 | 122.7 | 4.7 | 30.0   |
| Chloroethane                   |       | 120.9 | 53.4 | 149.4 | 0.9 | 30.0   |
| Chloroform                     |       | 121.9 | 78.4 | 124.0 | 0.3 | 30.0   |
| Chloromethane                  |       | 122.2 | 23.8 | 166.5 | 1.5 | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 89.9  | 21.2 | 189.4 | 3.9 | 30.0   |
| 1,2-Dichlorobenzene            |       | 109.2 | 10.0 | 166.2 | 6.0 | 30.0   |
| 1,2-Dichloroethane             |       | 96.4  | 76.0 | 126.3 | 3.3 | 30.0   |
| 1,2-Dichloropropane            |       | 102.7 | 78.6 | 126.4 | 2.4 | 30.0   |
| 1,3-Dichlorobenzene            |       | 107.3 | 77.0 | 131.3 | 6.0 | 30.0   |
| 1,4-Dichlorobenzene            |       | 107.2 | 20.7 | 137.7 | 5.6 | 30.0   |
| cis-1,2-Dichloroethene         | *     | 125.5 | 76.6 | 122.1 | 0.9 | 30.0   |
| Dibromochloromethane           |       | 99.7  | 74.6 | 127.2 | 4.7 | 30.0   |
| Dichlorodifluoromethane        |       | 121.6 | 10.0 | 222.8 | 1.4 | 30.0   |
| trans-1,2-Dichloroethene       |       | 117.4 | 73.6 | 129.3 | 1.0 | 30.0   |
| Ethylbenzene                   |       | 106.3 | 79.5 | 129.1 | 3.9 | 30.0   |
| 2-Hexanone                     |       | 81.8  | 55.4 | 136.9 | 8.9 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 86.4  | 71.6 | 125.2 | 7.8 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 118.7 | 73.2 | 122.4 | 1.8 | 30.0   |
| Methylene chloride             | *     | 122.5 | 73.3 | 121.1 | 0.2 | 30.0   |
| Styrene                        |       | 107.7 | 69.5 | 126.7 | 4.0 | 30.0   |
| 1,1,1-Trichloroethane          |       | 111.9 | 79.4 | 130.9 | 0.4 | 30.0   |
| 1,1,2-Trichloroethane          |       | 104.1 | 78.7 | 123.1 | 1.5 | 30.0   |

**Organics - Volatiles, Prep Batch ID: VF221003W3 (continued)**

Surrogates: Yes, QC Types: BLK/LCS/LCSD

**Laboratory Control Sample Duplicate (LCSD) (continued)**

Lab Sample ID: 221003B7.LCSDW03B, Parent Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 23:15, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 117.1 | 27.4 | 143.4 | 6.3 | 30.0   |
| Tetrachloroethene                     |       | 108.3 | 74.5 | 124.5 | 2.1 | 30.0   |
| Toluene                               |       | 105.2 | 79.8 | 124.5 | 1.5 | 30.0   |
| Trichloroethene                       |       | 104.2 | 79.7 | 124.2 | 1.7 | 30.0   |
| Trichlorofluoromethane                |       | 114.8 | 59.7 | 151.8 | 0.4 | 30.0   |
| Vinyl chloride                        |       | 128.7 | 43.5 | 149.1 | 1.9 | 30.0   |
| o-Xylene                              |       | 106.5 | 80.2 | 131.0 | 3.5 | 30.0   |
| p,m-Xylene                            |       | 106.6 | 79.4 | 132.2 | 4.2 | 30.0   |
| Isopropylbenzene                      |       | 108.4 | 74.4 | 121.5 | 3.9 | 30.0   |
| Cyclohexane                           |       | 107.1 | 10.0 | 169.1 | 0.2 | 30.0   |
| 1,1-Dichloroethane                    |       | 119.0 | 71.5 | 126.2 | 0.9 | 30.0   |
| 1,1-Dichloroethene                    |       | 114.1 | 69.6 | 139.4 | 0.4 | 30.0   |
| Methyl Acetate                        |       | 103.1 | 64.7 | 125.4 | 6.2 | 30.0   |
| Methyl cyclohexane                    |       | 101.2 | 76.6 | 131.3 | 1.3 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 119.9 | 75.1 | 135.9 | 1.3 | 30.0   |
| 1,2-Dibromoethane                     |       | 104.2 | 70.3 | 133.7 | 2.7 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 98.3  | 79.8 | 126.3 | 2.7 | 30.0   |
| cis-1,3-Dichloropropene               |       | 101.1 | 79.8 | 129.9 | 2.1 | 30.0   |
| trans-1,3-Dichloropropene             |       | 97.4  | 74.0 | 131.3 | 2.7 | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | Conc | RDL  | Units |
|-------------|-------|------|------|-------|
| 1,4-Dioxane | *     | 0.33 | 0.02 | ug/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   |
|-------------|-------|-------|------|-------|
| 1,4-Dioxane |       | 90.5  | 70.0 | 130.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-------------|-------|-------|------|-------|-----|--------|
| 1,4-Dioxane |       | 90.2  | 70.0 | 130.0 | 0.4 | 30.0   |

## REPORT TO

|                                                        |  |              |                |
|--------------------------------------------------------|--|--------------|----------------|
| CONTACT NAME                                           |  | Alexis Crisp |                |
| COMPANY                                                |  | Arcadis      |                |
| ADDRESS                                                |  |              |                |
| 28550 Cabot Dr #500                                    |  |              |                |
| CITY                                                   |  | STATE        | ZIP CODE       |
| Novi                                                   |  | MI           | 48317          |
| PHONE NO.                                              |  | CELL NO.     | P.O. NO.       |
|                                                        |  |              | 30112891.00006 |
| E-MAIL ADDRESS                                         |  | QUOTE NO.    |                |
| tiffany.linder@arcadis.com<br>Alexis.Crisp@arcadis.com |  |              |                |

## CHAIN OF CUSTODY RECORD

|              |  |                                                               |  |                               |       |
|--------------|--|---------------------------------------------------------------|--|-------------------------------|-------|
| CONTACT NAME |  | Accounts Payable                                              |  | <input type="checkbox"/> SAME |       |
| COMPANY      |  | Arcadis                                                       |  |                               |       |
| ADDRESS      |  | 630 Plaza Dr #600                                             |  |                               |       |
| CITY         |  | Highlands Ranch                                               |  | STATE                         | CO    |
|              |  |                                                               |  | ZIP CODE                      | 80129 |
| PHONE NO.    |  | E-MAIL ADDRESS<br>accounts.payable.administration@arcadis.com |  |                               |       |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| PROJECT NO./NAME<br>3012391.00006 / Racer PNC                                                                                                                                                                                                     | SAMPLER(S) - PLEASE PRINT (SIGN NAME)<br>Sommer Guy / Samthuy |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                               |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

## Certifications

☐ OHIO VAP    ☐ Drinking Water☐ DoD ☐ NPDES

## Project Locations

☐ Detroit      ☐ New York☐ Other

Special Instructions

[illegible]

|                        |                             |                                             |         |       |
|------------------------|-----------------------------|---------------------------------------------|---------|-------|
| RELINQUISHED BY:       | <i>Summer Day / Arcadis</i> | <input checked="" type="checkbox"/> Sampler | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/30/22 | 12:20 |
| RECEIVED BY:           | <i>D. Miller</i>            |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/30/22 | 12:28 |
| RELINQUISHED BY:       | <i>D. Miller</i>            |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/30/22 | 16:00 |
| RECEIVED BY:           | <i>M. Valente</i>           |                                             | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                             |                                             | 9/30/22 | 1600  |

|                                            |                                                                         |          |        |                         |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                    |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                    |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL<br>3.3 |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                         |

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

Rev. 1.26.22



# Analytical Laboratory Report

Report ID: S40972.01(01)  
Generated on 10/06/2022

**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, Ian Drost

**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): S40972.01  
Project: 30112891.00006  
Collected Date(s): 09/30/2022  
Submitted Date/Time: 09/30/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                                                |
|---------------|------------------------------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                                          |
| N/A           | Not Applicable                                                         |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007                           |
| 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 |
|-----------|-------------------|-------------|---------------------|
| S40972.01 | MWOS-02_GW-093022 | Groundwater | 09/30/22 10:45      |



# Analytical Laboratory Report

Lab Sample ID: S40972.01

Sample Tag: MWOS-02\_GW-093022

Collected Date/Time: 09/30/2022 10:45

Matrix: Groundwater

COC Reference: 154484

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.3               | IR            |
| 2 | 125ml Plastic | HNO3            | Yes           | 3.3               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| pH check for VOCs* | <2        | N/A     | 10/04/22 11:20 | WAT     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 11:00 | CCM     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 11:00 | CCM     |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:03, Analyst: CCM

| Parameter            | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|----------------------|--------|-------|-----|-------|----------|-----------|-------|
| Manganese, Dissolved | 0.315  | 0.005 |     | mg/L  | 5        | 7439-96-5 |       |

Method: E200.8, Run Date: 10/05/22 14:02, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Manganese | 0.380  | 0.005 |     | mg/L  | 5        | 7439-96-5 |       |

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 09:27, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |
| Dibromochloromethane        | Not detected | 5  |     | ug/L  | 1        | 124-48-1 |       |
| Dichlorodifluoromethane     | Not detected | 5  |     | ug/L  | 1        | 75-71-8  |       |
| trans-1,2-Dichloroethene    | Not detected | 1  |     | ug/L  | 1        | 156-60-5 |       |
| Ethylbenzene                | Not detected | 1  |     | ug/L  | 1        | 100-41-4 |       |
| 2-Hexanone                  | Not detected | 50 |     | ug/L  | 1        | 591-78-6 |       |
| 4-Methyl-2-pentanone (MIBK) | Not detected | 50 |     | ug/L  | 1        | 108-10-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S40972.01 (continued)

Sample Tag: MWOS-02\_GW-093022

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 09:27, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40972

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006

Submitted:09/30/2022 16:00 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                 |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------|
| <b>Sample Receiving</b>                                                                              |                                                        |                      |
| 01. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C                      | Thermometer # IR 3.3 |
| 02. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |                      |
| 03. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |                      |
| 04. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |                      |
| 05. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |                      |
| <b>Chain of Custody</b>                                                                              |                                                        |                      |
| 06. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |                      |
| 07. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |                      |
| 08. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |                      |
| 09. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |                      |
| <b>Preservation</b>                                                                                  |                                                        |                      |
| 10. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |                      |
| 11. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |                      |
| 12. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |                      |
| <b>Bottle Conditions</b>                                                                             |                                                        |                      |
| 13. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |                      |
| 14. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |                      |
| 15. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |                      |
| 16. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |                      |
| 17. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |                      |
| 18. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |                      |
| 19. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_

## Merit Laboratories Bottle Preservation Check

Lab Set ID: S40972      Submitted: 09/30/2022 16:00

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006

Initial Preservation Check: 09/30/2022 16:56 MMC

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S40972.01 | 125ml Plastic HNO3    | <2        |        |          |       |

## REPORT TO

|                                                        |  |  |          |                     |                |          |  |
|--------------------------------------------------------|--|--|----------|---------------------|----------------|----------|--|
| CONTACT NAME                                           |  |  |          | Alexis Crisp        |                |          |  |
| COMPANY                                                |  |  |          | Arcadis             |                |          |  |
| ADDRESS                                                |  |  |          | 28550 Cabot Dr #500 |                |          |  |
| CITY                                                   |  |  |          | STATE               |                | ZIP CODE |  |
| NOVI                                                   |  |  |          | MI                  |                | 48377    |  |
| PHONE NO.                                              |  |  | CELL NO. |                     | P.O. NO.       |          |  |
|                                                        |  |  |          |                     | 30112891.00006 |          |  |
| E-MAIL ADDRESS                                         |  |  |          |                     | QUOTE NO.      |          |  |
| tiffany.linder@arcadis.com<br>Alexis.crisp@arcadis.com |  |  |          |                     |                |          |  |

## CHAIN OF CUSTODY RECORD

|              |                |                               |          |
|--------------|----------------|-------------------------------|----------|
| CONTACT NAME |                | <input type="checkbox"/> SAME |          |
| COMPANY      |                |                               |          |
| ADDRESS      |                |                               |          |
| CITY         |                | STATE                         | ZIP CODE |
| PHONE NO.    | E-MAIL ADDRESS |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| PROJECT NO./NAME<br><div style="font-size: 1.2em; font-family: cursive;">3012891.00006</div>                                                                                                                                                      | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><div style="font-family: cursive;">Sommer Day / Sommer Guy</div> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                                                         |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER _____ |                                                                                                         |

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

### # Containers & Preservatives

[illegible]

|                        |                   |         |       |
|------------------------|-------------------|---------|-------|
| RELINQUISHED BY:       | <i>Sommer Day</i> | DATE    | TIME  |
| SIGNATURE/ORGANIZATION | <i>Arcadis</i>    | 9/30/22 | 18:20 |
| RECEIVED BY:           | <i>J. Miller</i>  | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                   | 9/30/22 | 18:20 |
| RELINQUISHED BY:       | <i>J. Miller</i>  | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                   | 9/30/22 | 16:00 |
| RECEIVED BY:           | <i>M. Wilcox</i>  | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                   | 9/30/22 | 16:00 |

|                                            |                                                                         |          |        |                  |      |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|------------------|------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          |        | DATE             | TIME |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          |        | DATE             | TIME |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL | 3.3  |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                  |      |

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

Rev. 1-26-22



# Quality Control Report

Report ID: QC-S40972-01  
Generated on 10/07/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S40972.01  
Project: 30112891.00006  
Submitted Date/Time: 09/30/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Page 2)  
Prep Batch Summary (Page 3)  
Surrogates per Lab Sample (Page 4)  
Surrogates per QC Sample (Page 5)  
Batch QC Results (Pages 6-10)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager



## QC Report - Analysis Summary

**Lab Sample ID: S40972.01**

Sample Tag: MWOS-02\_GW-093022

Collected Date/Time: 09/30/2022 10:45

Matrix: Groundwater

COC Reference: 154484

| Analysis                           | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|------------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b><i>Metals</i></b>               |               |                |              |              |      |                |
| Manganese, Dissolved               | E200.8        | 10/05/22 14:03 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD |
| Manganese                          | E200.8        | 10/05/22 14:02 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD |
| <b><i>Organics - Volatiles</i></b> |               |                |              |              |      |                |
| Volatile Organics - Arcadis        | SW5030C/8260C | 10/04/22 09:27 | 221003B7     | VF221003W3   | Yes  | BLK/LCS/LCSD   |

## QC Report - Prep Batch Summary

### Metals, Prep Batch ID: MTD-100522-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis             | Method | Run Date/Time  | Batch ID     |
|-----------|----------------------|--------|----------------|--------------|
| S40972.01 | Manganese, Dissolved | E200.8 | 10/05/22 14:03 | MT4-22-1005A |
| S40972.01 | Manganese            | E200.8 | 10/05/22 14:02 | MT4-22-1005A |

### Organics - Volatiles, Prep Batch ID: VF221003W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S40972.01 | Volatile Organics - Arcadis | SW5030C/8260C | 10/04/22 09:27 | 221003B7 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S40972.01

Sample Tag: MWOS-02\_GW-093022

Collected Date/Time: 09/30/2022 10:45

Matrix: Groundwater

COC Reference: 154484

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221003B7, Run Date: 10/04/2022 09:27, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 108.7 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 92.5  | 72.0 | 125.0 |
| Toluene-D8            |       | 100.1 | 89.0 | 112.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF221003W3

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221003B7.BLKW03B

Run in Batch: 221003B7, Run Date: 10/04/2022 00:25, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.0</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>112.8</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.4</b> | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 22:52, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>106.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>120.0</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>103.8</b> | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221003B7.LCSDW03B, Parent Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 23:15, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>106.1</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>113.1</b> | 72.0 | 125.0 |
| Toluene-D8            |       | <b>102.8</b> | 89.0 | 112.0 |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-1005A.069.LRB

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:09, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL   | Units |
|-----------|-------|------|-------|-------|
| Manganese |       | ND   | 0.001 | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005A.067.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:06, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Manganese |       | 101   | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.087.MS, Parent Sample ID: S40793.04

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:40, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Manganese |       | 99    | 75  | 125 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.107.MS, Parent Sample ID: S40972.01

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 14:11, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Manganese |       | 98    | 75  | 125 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.088.MSD, Parent Sample ID: MT4-22-1005A.087.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:41, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Manganese |       | 99    | 75  | 125 | 0   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.108.MSD, Parent Sample ID: MT4-22-1005A.107.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 14:12, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Manganese |       | 96    | 75  | 125 | 1   | 20     |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 221003B7.BLKW03B

Run in Batch: 221003B7, Run Date: 10/04/2022 00:25, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Blank (BLK) (continued)

Lab Sample ID: 221003B7.BLKW03B

Run in Batch: 221003B7, Run Date: 10/04/2022 00:25, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 22:52, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 105.0 | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 103.3 | 44.0 | 134.4 |
| Benzene                        |       | 103.4 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 97.7  | 80.4 | 128.2 |
| Bromoform                      |       | 91.4  | 69.4 | 128.0 |
| Bromomethane                   |       | 126.1 | 56.8 | 151.3 |
| Carbon disulfide               |       | 109.2 | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 88.6  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 105.3 | 79.2 | 122.7 |
| Chloroethane                   |       | 122.0 | 53.4 | 149.4 |
| Chloroform                     |       | 121.5 | 78.4 | 124.0 |
| Chloromethane                  |       | 120.4 | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 93.4  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 102.9 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 93.3  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 100.2 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 101.0 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 101.3 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         | *     | 124.4 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 95.2  | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 119.9 | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 116.3 | 73.6 | 129.3 |
| Ethylbenzene                   |       | 102.2 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 89.5  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 93.4  | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 120.8 | 73.2 | 122.4 |
| Methylene chloride             | *     | 122.7 | 73.3 | 121.1 |
| Styrene                        |       | 103.5 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 111.5 | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 102.6 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 110.0 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 106.1 | 74.5 | 124.5 |
| Toluene                        |       | 103.6 | 79.8 | 124.5 |
| Trichloroethene                |       | 102.4 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 114.3 | 59.7 | 151.8 |
| Vinyl chloride                 |       | 126.2 | 43.5 | 149.1 |
| o-Xylene                       |       | 102.8 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 102.1 | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 22:52, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 104.3 | 74.4 | 121.5 |
| Cyclohexane                           |       | 106.9 | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 117.8 | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 113.7 | 69.6 | 139.4 |
| Methyl Acetate                        |       | 109.7 | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 99.9  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 118.3 | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 101.4 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 101.0 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 99.0  | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 94.8  | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221003B7.LCSDW03B, Parent Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 23:15, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------------------------|-------|-------|------|-------|-----|--------|
| Acetone                        |       | 96.1  | 29.9 | 161.5 | 8.9 | 30.0   |
| 2-Butanone (MEK)               |       | 94.4  | 44.0 | 134.4 | 9.0 | 30.0   |
| Benzene                        |       | 105.2 | 79.9 | 124.9 | 1.8 | 30.0   |
| Bromodichloromethane           |       | 99.8  | 80.4 | 128.2 | 2.1 | 30.0   |
| Bromoform                      |       | 92.7  | 69.4 | 128.0 | 1.3 | 30.0   |
| Bromomethane                   |       | 127.9 | 56.8 | 151.3 | 1.4 | 30.0   |
| Carbon disulfide               |       | 112.0 | 63.8 | 137.4 | 2.6 | 30.0   |
| Carbon tetrachloride           |       | 89.2  | 72.6 | 133.0 | 0.7 | 30.0   |
| Chlorobenzene                  |       | 110.4 | 79.2 | 122.7 | 4.7 | 30.0   |
| Chloroethane                   |       | 120.9 | 53.4 | 149.4 | 0.9 | 30.0   |
| Chloroform                     |       | 121.9 | 78.4 | 124.0 | 0.3 | 30.0   |
| Chloromethane                  |       | 122.2 | 23.8 | 166.5 | 1.5 | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 89.9  | 21.2 | 189.4 | 3.9 | 30.0   |
| 1,2-Dichlorobenzene            |       | 109.2 | 10.0 | 166.2 | 6.0 | 30.0   |
| 1,2-Dichloroethane             |       | 96.4  | 76.0 | 126.3 | 3.3 | 30.0   |
| 1,2-Dichloropropane            |       | 102.7 | 78.6 | 126.4 | 2.4 | 30.0   |
| 1,3-Dichlorobenzene            |       | 107.3 | 77.0 | 131.3 | 6.0 | 30.0   |
| 1,4-Dichlorobenzene            |       | 107.2 | 20.7 | 137.7 | 5.6 | 30.0   |
| cis-1,2-Dichloroethene         | *     | 125.5 | 76.6 | 122.1 | 0.9 | 30.0   |
| Dibromochloromethane           |       | 99.7  | 74.6 | 127.2 | 4.7 | 30.0   |
| Dichlorodifluoromethane        |       | 121.6 | 10.0 | 222.8 | 1.4 | 30.0   |
| trans-1,2-Dichloroethene       |       | 117.4 | 73.6 | 129.3 | 1.0 | 30.0   |
| Ethylbenzene                   |       | 106.3 | 79.5 | 129.1 | 3.9 | 30.0   |
| 2-Hexanone                     |       | 81.8  | 55.4 | 136.9 | 8.9 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 86.4  | 71.6 | 125.2 | 7.8 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 118.7 | 73.2 | 122.4 | 1.8 | 30.0   |
| Methylene chloride             | *     | 122.5 | 73.3 | 121.1 | 0.2 | 30.0   |
| Styrene                        |       | 107.7 | 69.5 | 126.7 | 4.0 | 30.0   |
| 1,1,1-Trichloroethane          |       | 111.9 | 79.4 | 130.9 | 0.4 | 30.0   |
| 1,1,2-Trichloroethane          |       | 104.1 | 78.7 | 123.1 | 1.5 | 30.0   |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 221003B7.LCSDW03B, Parent Sample ID: 221003B7.LCSW03B

Run in Batch: 221003B7, Run Date: 10/03/2022 23:15, Prep Date: 10/03/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 117.1 | 27.4 | 143.4 | 6.3 | 30.0   |
| Tetrachloroethene                     |       | 108.3 | 74.5 | 124.5 | 2.1 | 30.0   |
| Toluene                               |       | 105.2 | 79.8 | 124.5 | 1.5 | 30.0   |
| Trichloroethene                       |       | 104.2 | 79.7 | 124.2 | 1.7 | 30.0   |
| Trichlorofluoromethane                |       | 114.8 | 59.7 | 151.8 | 0.4 | 30.0   |
| Vinyl chloride                        |       | 128.7 | 43.5 | 149.1 | 1.9 | 30.0   |
| o-Xylene                              |       | 106.5 | 80.2 | 131.0 | 3.5 | 30.0   |
| p,m-Xylene                            |       | 106.6 | 79.4 | 132.2 | 4.2 | 30.0   |
| Isopropylbenzene                      |       | 108.4 | 74.4 | 121.5 | 3.9 | 30.0   |
| Cyclohexane                           |       | 107.1 | 10.0 | 169.1 | 0.2 | 30.0   |
| 1,1-Dichloroethane                    |       | 119.0 | 71.5 | 126.2 | 0.9 | 30.0   |
| 1,1-Dichloroethene                    |       | 114.1 | 69.6 | 139.4 | 0.4 | 30.0   |
| Methyl Acetate                        |       | 103.1 | 64.7 | 125.4 | 6.2 | 30.0   |
| Methyl cyclohexane                    |       | 101.2 | 76.6 | 131.3 | 1.3 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 119.9 | 75.1 | 135.9 | 1.3 | 30.0   |
| 1,2-Dibromoethane                     |       | 104.2 | 70.3 | 133.7 | 2.7 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 98.3  | 79.8 | 126.3 | 2.7 | 30.0   |
| cis-1,3-Dichloropropene               |       | 101.1 | 79.8 | 129.9 | 2.1 | 30.0   |
| trans-1,3-Dichloropropene             |       | 97.4  | 74.0 | 131.3 | 2.7 | 30.0   |

## REPORT TO

|                                                        |  |  |          |                     |                |          |  |
|--------------------------------------------------------|--|--|----------|---------------------|----------------|----------|--|
| CONTACT NAME                                           |  |  |          | Alexis Crisp        |                |          |  |
| COMPANY                                                |  |  |          | Arcadis             |                |          |  |
| ADDRESS                                                |  |  |          | 28550 Cabot Dr #500 |                |          |  |
| CITY                                                   |  |  |          | STATE               |                | ZIP CODE |  |
| NOVI                                                   |  |  |          | MI                  |                | 48377    |  |
| PHONE NO.                                              |  |  | CELL NO. |                     | P.O. NO.       |          |  |
|                                                        |  |  |          |                     | 30112891.00006 |          |  |
| E-MAIL ADDRESS                                         |  |  |          |                     | QUOTE NO.      |          |  |
| tiffany.linder@arcadis.com<br>Alexis.crisp@arcadis.com |  |  |          |                     |                |          |  |

## CHAIN OF CUSTODY RECORD

|              |                |                               |          |
|--------------|----------------|-------------------------------|----------|
| CONTACT NAME |                | <input type="checkbox"/> SAME |          |
| COMPANY      |                |                               |          |
| ADDRESS      |                |                               |          |
| CITY         |                | STATE                         | ZIP CODE |
| PHONE NO.    | E-MAIL ADDRESS |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| PROJECT NO./NAME<br><div style="font-size: 1.2em; font-family: cursive;">3012891.00006</div>                                                                                                                                                      | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><div style="font-family: cursive; font-size: 1.2em;">Summer Day / Summer Guy</div> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                                                                           |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER _____ |                                                                                                                           |

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

### # Containers & Preservatives

[illegible]

|                        |                   |         |       |
|------------------------|-------------------|---------|-------|
| RELINQUISHED BY:       | <i>Sommer Day</i> | DATE    | TIME  |
| SIGNATURE/ORGANIZATION | <i>Arcadis</i>    | 9/30/22 | 18:20 |
| RECEIVED BY:           | <i>J. Miller</i>  | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                   | 9/30/22 | 18:20 |
| RELINQUISHED BY:       | <i>J. Miller</i>  | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                   | 9/30/22 | 16:00 |
| RECEIVED BY:           | <i>M. Wilcox</i>  | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                   | 9/30/22 | 16:00 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.3</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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

Rev. 1-26-22



# Analytical Laboratory Report

Report ID: S40999.01(01)  
Generated on 10/10/2022

**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, Ian Drost

**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): S40999.01  
Project: 30112891.00006 / Racer PNC  
Collected Date(s): 10/03/2022  
Submitted Date/Time: 10/03/2022 15:40  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                           |
|---------------|---------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                     |
| E245.1        | EPA Method 245.1 Revision 3.0                     |
| E608.3        | EPA Method 608.3 December 2016                    |
| N/A           | Not Applicable                                    |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007      |
| SW3510C       | SW 846 Method 3510C Revision 3 December 1996      |
| SW8260B - SIM | SW 846 Method 8260B Revision 2 December 1996 SIMs |
| SW8270D       | SW 846 Method 8270D Revision 4 February 2007      |



# Analytical Laboratory Report

**Sample Summary (1 samples)**

| Sample ID | Sample Tag        | Matrix      | Collected Date/Time |
|-----------|-------------------|-------------|---------------------|
| S40999.01 | MWOS-04_GW-100322 | Groundwater | 10/03/22 12:15      |



# Analytical Laboratory Report

Lab Sample ID: S40999.01

Sample Tag: MWOS-04\_GW-100322

Collected Date/Time: 10/03/2022 12:15

Matrix: Groundwater

COC Reference: 154482

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.8               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 3.8               | IR            |
| 3 | 1L Amber      | None            | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/06/22 12:46 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/10/22 12:30 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 10/07/22 10:00 | JWR     |       |
| PNA Extraction     | Completed | SW3510C | 10/06/22 11:00 | JWR     |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:58, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Arsenic   | 0.004  | 0.002 |     | mg/L  | 5        | 7440-38-2 |       |

Method: E200.8, Run Date: 10/05/22 12:14, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Barium    | 0.111        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 0.103        | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | Not detected | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

Method: E245.1, Run Date: 10/06/22 14:51, Analyst: CTV

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

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/10/22 11:46, Analyst: JANB

| Parameter | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-----------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1016  | Not detected | 0.1 |     | ug/L  | 1        | 12674-11-2 |       |
| PCB-1221  | Not detected | 0.1 |     | ug/L  | 1        | 11104-28-2 |       |
| PCB-1232  | Not detected | 0.1 |     | ug/L  | 1        | 11141-16-5 |       |
| PCB-1242  | Not detected | 0.1 |     | ug/L  | 1        | 53469-21-9 |       |





# Analytical Laboratory Report

Lab Sample ID: S40999.01 (continued)

Sample Tag: MWOS-04\_GW-100322

**PCB, Method: E608.3, Run Date: 10/10/22 11:46, Analyst: JANB (continued)**

| Parameter   | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-------------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1248    | Not detected | 0.1 |     | ug/L  | 1        | 12672-29-6 |       |
| PCB-1254    | Not detected | 0.1 |     | ug/L  | 1        | 11097-69-1 |       |
| PCB-1260    | Not detected | 0.1 |     | ug/L  | 1        | 11096-82-5 |       |
| PCB, Total* | Not detected | 0.1 |     | ug/L  | 1        | 1336-36-3  |       |

**Organics - Semi-Volatiles**

**Method: SW8270D, Run Date: 10/07/22 19:49, Analyst: PL**

| Parameter    | Result       | RL | MDL | Units | Dilution | CAS#    | Flags |
|--------------|--------------|----|-----|-------|----------|---------|-------|
| Phenanthrene | Not detected | 2  |     | ug/L  | 2        | 85-01-8 |       |

**Organics - Volatiles**

**Method: SW8260B - SIM, Run Date: 10/08/22 01:35, Analyst: KAG**

| Parameter    | Result | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | 35     | 1  |     | ug/L  | 1        | 123-91-1 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S40999

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Submitted: 10/03/2022 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.8 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_

## Merit Laboratories Bottle Preservation Check

Lab Set ID: S40999      Submitted: 10/03/2022 15:40

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Initial Preservation Check: 10/03/2022 16:25 MMC

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S40999.01 | 125ml Plastic HNO3    | <2        |        |          |       |

## REPORT TO

## CHAIN OF CUSTODY RECORD

**INVOICE TO**

|                                                        |          |                             |          |
|--------------------------------------------------------|----------|-----------------------------|----------|
| CONTACT NAME                                           |          | Alexis Crisp                |          |
| COMPANY                                                |          | Arcadis 28550 Cabot Dr #500 |          |
| ADDRESS                                                |          | MI                          |          |
| CITY                                                   |          | STATE                       | ZIP CODE |
| Novi                                                   |          | MI                          | 48377    |
| PHONE NO.                                              | CELL NO. | P.O. NO.                    |          |
|                                                        |          | 30112891.00006              |          |
| E-MAIL ADDRESS                                         |          | QUOTE NO.                   |          |
| tiffany.tinder@arcadis.com<br>Alexis.Crisp@arcadis.com |          |                             |          |

|              |  |                               |          |
|--------------|--|-------------------------------|----------|
| CONTACT NAME |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  |                               |          |
| ADDRESS      |  |                               |          |
| CITY         |  | STATE                         | ZIP CODE |
| PHONE NO.    |  | E-MAIL ADDRESS                |          |

## ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

|                                                                                                                                                                                                                                                   |                  |                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------|
| PROJECT NO./NAME<br><b>30112891.00006</b>                                                                                                                                                                                                         | <b>Racer PNC</b> | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>Sommer Guy / Sommer Guy</b> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                  |                                                                       |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER _____ |                  |                                                                       |

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

# Containers & Preservatives[illegible]

|                                            |                     |         |       |
|--------------------------------------------|---------------------|---------|-------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | Tommy Day / Arcadis | DATE    | TIME  |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | [Signature]         | 10/3/22 | 13:00 |
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | [Signature]         | DATE    | TIME  |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | [Signature]         | 10/3/22 | 15:40 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.8</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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

Rev. 1.26.22



# Quality Control Report

Report ID: QC-S40999-01  
Generated on 10/11/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S40999.01  
Project: 30112891.00006 / Racer PNC  
Submitted Date/Time: 10/03/2022 15:40  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Page 2)  
Prep Batch Summary (Page 3)  
Surrogates per Lab Sample (Page 4)  
Surrogates per QC Sample (Pages 5-7)  
Batch QC Results (Pages 8-15)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

# QC Report - Analysis Summary

**Lab Sample ID: S40999.01**

Sample Tag: MWOS-04\_GW-100322

Collected Date/Time: 10/03/2022 12:15

Matrix: Groundwater

COC Reference: 154482

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|-----------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b>Metals</b>                     |               |                |              |              |      |                |
| Antimony                          | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                           | E200.8        | 10/05/22 14:58 | MT4-22-1005B | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Barium                            | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                         | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                           | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Chromium                          | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                            | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Copper                            | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Lead                              | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Manganese                         | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Mercury                           | E245.1        | 10/06/22 14:51 | HG-22-1006A  | HGD-100622-1 | No   | BLK/LCS/MS/MSD |
| Nickel                            | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Selenium                          | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Silver                            | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Thallium                          | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                          | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Zinc                              | E200.8        | 10/05/22 12:14 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                |
| PCB                               | E608.3        | 10/10/22 11:46 | E221010      | PA221007W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Semi-Volatiles</b>  |               |                |              |              |      |                |
| Phenanthrene                      | SW8270D       | 10/07/22 19:49 | H221007      | SP221006W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                |
| 1,4-Dioxane                       | SW8260B - SIM | 10/08/22 01:35 | 221007B9     | VS221007W1   | Yes  | BLK/LCS/LCSD   |

## QC Report - Prep Batch Summary

### Metals, Prep Batch ID: HGD-100622-1

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID    |
|-----------|----------|--------|----------------|-------------|
| S40999.01 | Mercury  | E245.1 | 10/06/22 14:51 | HG-22-1006A |

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S40999.01 | Antimony  | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Arsenic   | E200.8 | 10/05/22 14:58 | MT4-22-1005B |
| S40999.01 | Barium    | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Beryllium | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Cadmium   | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Chromium  | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Cobalt    | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Copper    | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Lead      | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Manganese | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Nickel    | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Selenium  | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Silver    | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Thallium  | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Vanadium  | E200.8 | 10/05/22 12:14 | MT4-22-1005A |
| S40999.01 | Zinc      | E200.8 | 10/05/22 12:14 | MT4-22-1005A |

### Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S40999.01 | PCB      | E608.3 | 10/10/22 11:46 | E221010  |

### Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis     | Method  | Run Date/Time  | Batch ID |
|-----------|--------------|---------|----------------|----------|
| S40999.01 | Phenanthrene | SW8270D | 10/07/22 19:49 | H221007  |

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis    | Method        | Run Date/Time  | Batch ID |
|-----------|-------------|---------------|----------------|----------|
| S40999.01 | 1,4-Dioxane | SW8260B - SIM | 10/08/22 01:35 | 221007B9 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S40999.01**

Sample Tag: MWOS-04\_GW-100322

Collected Date/Time: 10/03/2022 12:15

Matrix: Groundwater

COC Reference: 154482

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221010, Run Date: 10/10/2022 11:46, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec         | LCL  | UCL   |
|-----------|-------|--------------|------|-------|
| TCX       |       | <b>67.50</b> | 34.1 | 137.1 |
| DCBP      |       | <b>67.70</b> | 30.0 | 138.6 |

### Organics - Semi-Volatiles, Analysis: Phenanthrene

Run in Batch: H221007, Run Date: 10/07/2022 19:49, Matrix: WW, Dilution: 2

| Surrogate        | Flags | %Rec        | LCL  | UCL   |
|------------------|-------|-------------|------|-------|
| Nitrobenzene-D5  |       | <b>71.0</b> | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | <b>71.5</b> | 10.0 | 116.0 |
| Terphenyl-D14    |       | <b>79.2</b> | 10.0 | 141.0 |



# QC Report - Surrogates per QC Sample

## Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22100706.sblk-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:28, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 68.30 | 34.1 | 137.1 |
| DCBP      |       | 83.30 | 30.0 | 138.6 |

### Blank (BLK)

Lab Sample ID: b22101004.sblk-w.01

Run in Batch: B221010, Run Date: 10/10/2022 11:09, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 84.30 | 34.1 | 137.1 |
| DCBP      |       | 78.20 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:40, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 87.20 | 34.1 | 137.1 |
| DCBP      |       | 88.00 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: b22101005.slcs-w.01

Run in Batch: B221010, Run Date: 10/10/2022 11:55, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 81.10 | 34.1 | 137.1 |
| DCBP      |       | 80.50 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100708.slcs-w.01d, Parent Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:51, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 85.20 | 34.1 | 137.1 |
| DCBP      |       | 86.40 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: b22101006.slcs-w.01d, Parent Sample ID: b22101005.slcs-w.01

Run in Batch: B221010, Run Date: 10/10/2022 12:16, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 79.90 | 34.1 | 137.1 |
| DCBP      |       | 79.70 | 30.0 | 138.6 |

## QC Report - Surrogates per QC Sample

### Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: H221006.BLKW06B

Run in Batch: H221006, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 57.0 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 52.1 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 52.5 | 10.0 | 141.0 |

#### Blank (BLK)

Lab Sample ID: H221006B.BLKW06B

Run in Batch: H221006B, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 54.2 | 10.0 | 116.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 67.9 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 64.3 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 85.9 | 10.0 | 141.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: H221006B.LCSW06A

Run in Batch: H221006B, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 67.0 | 10.0 | 116.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006.LCSDW06A, Parent Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 69.2 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 63.7 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 83.5 | 10.0 | 141.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006B.LCSDW06A, Parent Sample ID: H221006B.LCSW06A

Run in Batch: H221006B, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 66.4 | 10.0 | 116.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VS221007W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: HGD-100622-1

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: HG-22-1006A.015.LRB

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 13:51, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL  | Units |
|---------|-------|------|------|-------|
| Mercury |       | ND   | 0.20 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HG-22-1006A.014.LCS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 13:48, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 103   | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1006A.023.MS, Parent Sample ID: S40900.04

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 14:18, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | NA    |     |     |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1006A.034.MS, Parent Sample ID: S40999.01

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 14:54, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 105   | 80  | 120 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1006A.024.MSD, Parent Sample ID: HG-22-1006A.023.MS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 14:21, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | ***** |     |     | 0   |        |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1006A.035.MSD, Parent Sample ID: HG-22-1006A.034.MS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 14:57, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 106   | 80  | 120 | 1   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-1005A.021.LRB

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:36, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL    | Units |
|-----------|-------|------|--------|-------|
| Antimony  |       | ND   | 0.001  | mg/L  |
| Barium    |       | ND   | 0.001  | mg/L  |
| Beryllium |       | ND   | 0.0002 | mg/L  |
| Cadmium   |       | ND   | 0.0001 | mg/L  |
| Chromium  |       | ND   | 0.001  | mg/L  |
| Cobalt    |       | ND   | 0.001  | mg/L  |
| Copper    |       | ND   | 0.001  | mg/L  |
| Lead      |       | ND   | 0.0006 | mg/L  |
| Manganese |       | ND   | 0.001  | mg/L  |
| Nickel    |       | ND   | 0.001  | mg/L  |
| Selenium  |       | ND   | 0.001  | mg/L  |
| Silver    |       | ND   | 0.0001 | mg/L  |
| Thallium  |       | ND   | 0.0004 | mg/L  |
| Vanadium  |       | ND   | 0.001  | mg/L  |
| Zinc      |       | ND   | 0.001  | mg/L  |

#### Blank (BLK)

Lab Sample ID: MT4-22-1005B.017.LRB

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:50, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL    | Units |
|---------|-------|------|--------|-------|
| Arsenic |       | ND   | 0.0004 | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005A.019.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:33, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 85  | 115 |
| Barium    |       | 99    | 85  | 115 |
| Beryllium |       | 98    | 85  | 115 |
| Cadmium   |       | 100   | 85  | 115 |
| Chromium  |       | 98    | 85  | 115 |
| Cobalt    |       | 99    | 85  | 115 |
| Copper    |       | 100   | 85  | 115 |
| Lead      |       | 102   | 85  | 115 |
| Manganese |       | 98    | 85  | 115 |
| Nickel    |       | 99    | 85  | 115 |
| Selenium  |       | 101   | 85  | 115 |
| Silver    |       | 99    | 85  | 115 |
| Thallium  |       | 100   | 85  | 115 |
| Vanadium  |       | 101   | 85  | 115 |
| Zinc      |       | 97    | 85  | 115 |

# QC Report - Batch QC Results

**Metals, Prep Batch ID: MTD-100522-2 (continued)**

Surrogates: No, QC Types: BLK/LCS/MS/MSD

**Laboratory Control Sample (LCS)**

Lab Sample ID: MT4-22-1005B.016.LCS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:49, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 99    | 85  | 115 |

**Matrix Spike (MS)**

Lab Sample ID: MT4-22-1005A.042.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:22, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 75  | 125 |
| Barium    |       | 96    | 75  | 125 |
| Beryllium |       | 106   | 75  | 125 |
| Cadmium   |       | 94    | 75  | 125 |
| Chromium  |       | 98    | 75  | 125 |
| Cobalt    |       | 95    | 75  | 125 |
| Copper    |       | 90    | 75  | 125 |
| Lead      |       | 94    | 75  | 125 |
| Manganese |       | 91    | 75  | 125 |
| Nickel    |       | 98    | 75  | 125 |
| Selenium  |       | 104   | 75  | 125 |
| Silver    |       | 91    | 75  | 125 |
| Thallium  |       | 95    | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 97    | 75  | 125 |

**Matrix Spike (MS)**

Lab Sample ID: MT4-22-1005A.062.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:58, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 103   | 75  | 125 |
| Barium    |       | 99    | 75  | 125 |
| Beryllium |       | 105   | 75  | 125 |
| Cadmium   |       | 102   | 75  | 125 |
| Chromium  |       | 102   | 75  | 125 |
| Cobalt    |       | 100   | 75  | 125 |
| Copper    |       | 97    | 75  | 125 |
| Lead      |       | 100   | 75  | 125 |
| Manganese |       | 98    | 75  | 125 |
| Nickel    |       | 101   | 75  | 125 |
| Selenium  |       | 107   | 75  | 125 |
| Silver    |       | 93    | 75  | 125 |
| Thallium  |       | 102   | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 104   | 75  | 125 |

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.029.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 104   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.041.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:10, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 102   | 75  | 125 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.043.MSD, Parent Sample ID: MT4-22-1005A.042.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:23, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 99    | 75  | 125 | 2   | 20     |
| Barium    |       | 96    | 75  | 125 | 0   | 20     |
| Beryllium |       | 104   | 75  | 125 | 2   | 20     |
| Cadmium   |       | 97    | 75  | 125 | 2   | 20     |
| Chromium  |       | 99    | 75  | 125 | 2   | 20     |
| Cobalt    |       | 99    | 75  | 125 | 4   | 20     |
| Copper    |       | 94    | 75  | 125 | 4   | 20     |
| Lead      |       | 94    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 4   | 20     |
| Nickel    |       | 97    | 75  | 125 | 1   | 20     |
| Selenium  |       | 112   | 75  | 125 | 8   | 20     |
| Silver    |       | 91    | 75  | 125 | 1   | 20     |
| Thallium  |       | 96    | 75  | 125 | 1   | 20     |
| Vanadium  |       | 104   | 75  | 125 | 1   | 20     |
| Zinc      |       | 98    | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 100   | 75  | 125 | 2   | 20     |
| Barium    |       | 99    | 75  | 125 | 0   | 20     |
| Beryllium |       | 105   | 75  | 125 | 0   | 20     |
| Cadmium   |       | 100   | 75  | 125 | 1   | 20     |
| Chromium  |       | 100   | 75  | 125 | 2   | 20     |
| Cobalt    |       | 100   | 75  | 125 | 0   | 20     |
| Copper    |       | 98    | 75  | 125 | 1   | 20     |
| Lead      |       | 99    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 2   | 20     |
| Nickel    |       | 98    | 75  | 125 | 3   | 20     |
| Selenium  |       | 107   | 75  | 125 | 0   | 20     |
| Silver    |       | 91    | 75  | 125 | 3   | 20     |
| Thallium  |       | 100   | 75  | 125 | 1   | 20     |
| Vanadium  |       | 102   | 75  | 125 | 1   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Zinc    |       | 106   | 75  | 125 | 3   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.030.MSD, Parent Sample ID: MT4-22-1005B.029.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:01, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 104   | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.042.MSD, Parent Sample ID: MT4-22-1005B.041.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:11, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 102   | 75  | 125 | 0   | 20     |



## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22100706.sblk-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:28, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:40, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 94.74 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100708.slcs-w.01d, Parent Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:51, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------|-------|-------|------|-------|-----|--------|
| PCB-1016/1260 |       | 95.82 | 50.0 | 125.0 | 1.1 | 20.0   |

## QC Report - Batch QC Results

### Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: H221006.BLKW06B

Run in Batch: H221006, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | Conc | RDL     | Units |
|--------------|-------|------|---------|-------|
| Phenanthrene |       | ND   | 0.00050 | mg/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | % Rec | LCL  | UCL   |
|--------------|-------|-------|------|-------|
| Phenanthrene |       | 74.6  | 36.4 | 143.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006.LCSDW06A, Parent Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------|-------|-------|------|-------|-----|--------|
| Phenanthrene |       | 73.2  | 36.4 | 143.0 | 1.9 | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | Conc | RDL  | Units |
|-------------|-------|------|------|-------|
| 1,4-Dioxane | *     | 0.33 | 0.02 | ug/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   |
|-------------|-------|-------|------|-------|
| 1,4-Dioxane |       | 90.5  | 70.0 | 130.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-------------|-------|-------|------|-------|-----|--------|
| 1,4-Dioxane |       | 90.2  | 70.0 | 130.0 | 0.4 | 30.0   |

## REPORT TO

## CHAIN OF CUSTODY RECORD

**INVOICE TO**

|                                                        |          |                             |          |
|--------------------------------------------------------|----------|-----------------------------|----------|
| CONTACT NAME                                           |          | Alexis Crisp                |          |
| COMPANY                                                |          | Arcadis 28550 Cabot Dr #500 |          |
| ADDRESS                                                |          | MI                          |          |
| CITY                                                   |          | STATE                       | ZIP CODE |
| Novi                                                   |          | MI                          | 48377    |
| PHONE NO.                                              | CELL NO. | P.O. NO.                    |          |
|                                                        |          | 30112891.00006              |          |
| E-MAIL ADDRESS                                         |          | QUOTE NO.                   |          |
| tiffany.tinder@arcadis.com<br>Alexis.Crisp@arcadis.com |          |                             |          |

|              |  |                               |          |
|--------------|--|-------------------------------|----------|
| CONTACT NAME |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  |                               |          |
| ADDRESS      |  |                               |          |
| CITY         |  | STATE                         | ZIP CODE |
| PHONE NO.    |  | E-MAIL ADDRESS                |          |

|                                                                                                                                                                                                                                                   |           |                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------|
| PROJECT NO./NAME<br><b>30112891.00006</b>                                                                                                                                                                                                         | Racer PNC | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><b>Sommer Guy / Sommer Guy</b> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |           |                                                                       |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER _____ |           |                                                                       |

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

# Containers & Preservatives[illegible]

|                                            |                     |         |       |
|--------------------------------------------|---------------------|---------|-------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | Tommy Day / Arcadis | DATE    | TIME  |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | [Signature]         | 10/3/22 | 13:00 |
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | [Signature]         | DATE    | TIME  |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | [Signature]         | 10/3/22 | 15:40 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.8</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |



# Analytical Laboratory Report

Report ID: S41000.01(01)  
Generated on 10/10/2022

## 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, Ian Drost

## 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): S41000.01-S41000.03  
Project: 30112891.00006 / Racer PNC  
Collected Date(s): 10/03/2022  
Submitted Date/Time: 10/03/2022 15:40  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                                                |
|---------------|------------------------------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                                          |
| E608.3        | EPA Method 608.3 December 2016                                         |
| N/A           | Not Applicable                                                         |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007                           |
| SW5030C/8260C | SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003 |





# Analytical Laboratory Report

## Sample Summary (3 samples)

| Sample ID | Sample Tag        | Matrix      | Collected Date/Time |
|-----------|-------------------|-------------|---------------------|
| S41000.01 | MWOS-01_GW-100322 | Groundwater | 10/03/22 09:40      |
| S41000.02 | tripblank         | Water       | 10/03/22 00:01      |
| S41000.03 | MWOS-03_GW-100322 | Groundwater | 10/03/22 10:35      |



# Analytical Laboratory Report

Lab Sample ID: S41000.01

Sample Tag: MWOS-01\_GW-100322

Collected Date/Time: 10/03/2022 09:40

Matrix: Groundwater

COC Reference: 154480

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.8               | IR            |
| 2 | 125ml Plastic | HNO3            | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| pH check for VOCs* | <2        | N/A     | 10/05/22 15:00 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 11:00 | CCM     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 11:00 | CCM     |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:06, Analyst: CCM

| Parameter            | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|----------------------|--------|-------|-----|-------|----------|-----------|-------|
| Manganese, Dissolved | 0.293  | 0.005 |     | mg/L  | 5        | 7439-96-5 |       |

Method: E200.8, Run Date: 10/05/22 14:05, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Manganese | 0.424  | 0.005 |     | mg/L  | 5        | 7439-96-5 |       |

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 18:09, Analyst: BML

| Parameter                   | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|-----------------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone                     | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)            | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene                     | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane        | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform                   | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane                | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide            | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride        | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene               | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane                | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform                  | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |
| Chloromethane               | Not detected | 5  |     | ug/L  | 1        | 74-87-3  |       |
| 1,2-Dibromo-3-chloropropane | Not detected | 5  |     | ug/L  | 1        | 96-12-8  |       |
| 1,2-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 95-50-1  |       |
| 1,2-Dichloroethane          | Not detected | 1  |     | ug/L  | 1        | 107-06-2 |       |
| 1,2-Dichloropropane         | Not detected | 1  |     | ug/L  | 1        | 78-87-5  |       |
| 1,3-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 541-73-1 |       |
| 1,4-Dichlorobenzene         | Not detected | 1  |     | ug/L  | 1        | 106-46-7 |       |
| cis-1,2-Dichloroethene      | Not detected | 1  |     | ug/L  | 1        | 156-59-2 |       |
| Dibromochloromethane        | Not detected | 5  |     | ug/L  | 1        | 124-48-1 |       |
| Dichlorodifluoromethane     | Not detected | 5  |     | ug/L  | 1        | 75-71-8  |       |
| trans-1,2-Dichloroethene    | Not detected | 1  |     | ug/L  | 1        | 156-60-5 |       |
| Ethylbenzene                | Not detected | 1  |     | ug/L  | 1        | 100-41-4 |       |
| 2-Hexanone                  | Not detected | 50 |     | ug/L  | 1        | 591-78-6 |       |
| 4-Methyl-2-pentanone (MIBK) | Not detected | 50 |     | ug/L  | 1        | 108-10-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S41000.01 (continued)

Sample Tag: MWOS-01\_GW-100322

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 18:09, Analyst: BML (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S41000.02

Sample Tag: tripblank

Collected Date/Time: 10/03/2022 00:01

Matrix: Water

COC Reference: 154480

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/05/22 15:00 | BML     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 13:04, Analyst: BML**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S41000.02 (continued)

Sample Tag: tripblank

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 13:04, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |



# Analytical Laboratory Report

Lab Sample ID: S41000.03

Sample Tag: MWOS-03\_GW-100322

Collected Date/Time: 10/03/2022 10:35

Matrix: Groundwater

COC Reference: 154480

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 3.8               | IR            |
| 2 | 125ml Plastic | HNO3            | Yes           | 3.8               | IR            |
| 2 | 1L Amber      | None            | Yes           | 3.8               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| pH check for VOCs* | <2        | N/A     | 10/05/22 15:00 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 11:00 | CCM     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 11:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 10/07/22 10:00 | JWR     |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:09, Analyst: CCM

| Parameter           | Result       | RL    | MDL | Units | Dilution | CAS#      | Flags |
|---------------------|--------------|-------|-----|-------|----------|-----------|-------|
| Vanadium, Dissolved | Not detected | 0.005 |     | mg/L  | 5        | 7440-62-2 |       |

Method: E200.8, Run Date: 10/05/22 14:07, Analyst: CCM

| Parameter | Result       | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|-------|-----|-------|----------|-----------|-------|
| Vanadium  | Not detected | 0.005 |     | mg/L  | 5        | 7440-62-2 |       |

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/10/22 11:58, Analyst: JANB

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

## Organics - Volatiles

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 17:45, Analyst: BML

| Parameter            | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|----------------------|--------------|----|-----|-------|----------|----------|-------|
| Acetone              | Not detected | 50 |     | ug/L  | 1        | 67-64-1  |       |
| 2-Butanone (MEK)     | Not detected | 25 |     | ug/L  | 1        | 78-93-3  |       |
| Benzene              | Not detected | 1  |     | ug/L  | 1        | 71-43-2  |       |
| Bromodichloromethane | Not detected | 1  |     | ug/L  | 1        | 75-27-4  |       |
| Bromoform            | Not detected | 1  |     | ug/L  | 1        | 75-25-2  |       |
| Bromomethane         | Not detected | 5  |     | ug/L  | 1        | 74-83-9  |       |
| Carbon disulfide     | Not detected | 5  |     | ug/L  | 1        | 75-15-0  |       |
| Carbon tetrachloride | Not detected | 1  |     | ug/L  | 1        | 56-23-5  |       |
| Chlorobenzene        | Not detected | 1  |     | ug/L  | 1        | 108-90-7 |       |
| Chloroethane         | Not detected | 5  |     | ug/L  | 1        | 75-00-3  |       |
| Chloroform           | Not detected | 1  |     | ug/L  | 1        | 67-66-3  |       |



# Analytical Laboratory Report

Lab Sample ID: S41000.03 (continued)

Sample Tag: MWOS-03\_GW-100322

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/04/22 17:45, Analyst: BML (continued)**

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| Chloromethane                         | Not detected | 5  |     | ug/L  | 1        | 74-87-3    |       |
| 1,2-Dibromo-3-chloropropane           | Not detected | 5  |     | ug/L  | 1        | 96-12-8    |       |
| 1,2-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 95-50-1    |       |
| 1,2-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 107-06-2   |       |
| 1,2-Dichloropropane                   | Not detected | 1  |     | ug/L  | 1        | 78-87-5    |       |
| 1,3-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 541-73-1   |       |
| 1,4-Dichlorobenzene                   | Not detected | 1  |     | ug/L  | 1        | 106-46-7   |       |
| cis-1,2-Dichloroethene                | Not detected | 1  |     | ug/L  | 1        | 156-59-2   |       |
| Dibromochloromethane                  | Not detected | 5  |     | ug/L  | 1        | 124-48-1   |       |
| Dichlorodifluoromethane               | Not detected | 5  |     | ug/L  | 1        | 75-71-8    |       |
| trans-1,2-Dichloroethene              | Not detected | 1  |     | ug/L  | 1        | 156-60-5   |       |
| Ethylbenzene                          | Not detected | 1  |     | ug/L  | 1        | 100-41-4   |       |
| 2-Hexanone                            | Not detected | 50 |     | ug/L  | 1        | 591-78-6   |       |
| 4-Methyl-2-pentanone (MIBK)           | Not detected | 50 |     | ug/L  | 1        | 108-10-1   |       |
| tert-Methyl butyl ether (MTBE)        | Not detected | 5  |     | ug/L  | 1        | 1634-04-4  |       |
| Methylene chloride                    | Not detected | 5  |     | ug/L  | 1        | 75-09-2    |       |
| Styrene                               | Not detected | 1  |     | ug/L  | 1        | 100-42-5   |       |
| 1,1,1-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 71-55-6    |       |
| 1,1,2-Trichloroethane                 | Not detected | 1  |     | ug/L  | 1        | 79-00-5    |       |
| 1,2,4-Trichlorobenzene                | Not detected | 5  |     | ug/L  | 1        | 120-82-1   |       |
| Tetrachloroethene                     | Not detected | 1  |     | ug/L  | 1        | 127-18-4   |       |
| Toluene                               | Not detected | 1  |     | ug/L  | 1        | 108-88-3   |       |
| Trichloroethene                       | Not detected | 1  |     | ug/L  | 1        | 79-01-6    |       |
| Trichlorofluoromethane                | Not detected | 1  |     | ug/L  | 1        | 75-69-4    |       |
| Vinyl chloride                        | Not detected | 1  |     | ug/L  | 1        | 75-01-4    |       |
| o-Xylene                              | Not detected | 1  |     | ug/L  | 1        | 95-47-6    |       |
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S41000

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Submitted: 10/03/2022 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.8 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_



## Merit Laboratories Bottle Preservation Check

Lab Set ID: S41000      Submitted: 10/03/2022 15:40

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Initial Preservation Check: 10/03/2022 16:28 MMC

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S41000.01 | 125ml Plastic HNO3    | <2        |        |          |       |
| S41000.01 | 125ml Plastic HNO3    | <2        |        |          |       |
| S41000.03 | 125ml Plastic HNO3    | <2        |        |          |       |
| S41000.03 | 125ml Plastic HNO3    | <2        |        |          |       |

## REPORT TO

|                                                        |  |  |          |              |  |                |  |
|--------------------------------------------------------|--|--|----------|--------------|--|----------------|--|
| CONTACT NAME                                           |  |  |          | Alexis Crisp |  |                |  |
| COMPANY                                                |  |  |          | Arcadis      |  |                |  |
| ADDRESS                                                |  |  |          |              |  |                |  |
| 28550 Cabot Dr #500                                    |  |  |          |              |  |                |  |
| CITY                                                   |  |  |          | STATE        |  | ZIP CODE       |  |
| NOVI                                                   |  |  |          | MI           |  | 48377          |  |
| PHONE NO.                                              |  |  | CELL NO. |              |  | P.O. NO.       |  |
|                                                        |  |  |          |              |  | 30112891.00006 |  |
| E-MAIL ADDRESS                                         |  |  |          |              |  | QUOTE NO.      |  |
| tiffany.linder@arcadis.com<br>Alexis.Crisp@arcadis.com |  |  |          |              |  |                |  |

## CHAIN OF CUSTODY RECORD

|              |  |                                            |  |                               |          |
|--------------|--|--------------------------------------------|--|-------------------------------|----------|
| CONTACT NAME |  | Accounts Payable                           |  | <input type="checkbox"/> 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.co |  |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| PROJECT NO./NAME<br><u>3012891.00006 / Racer PNC</u>                                                                                                                                                                                              | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><u>Sommer Guy / Sommer Guy</u> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                       |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER _____ |                                                                       |

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

## # Containers & Preservatives

[illegible]

|                                            |                      |         |       |
|--------------------------------------------|----------------------|---------|-------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | Samuel Huy / Arcadis | DATE    | TIME  |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | [Signature]          | 10/3/22 | 13:20 |
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | [Signature]          | DATE    | TIME  |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | M. Gilcote           | 10/3/22 | 15:40 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.8</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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

Rev. 1.26.22



# Quality Control Report

Report ID: QC-S41000-01  
Generated on 10/11/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S41000.01-S41000.03  
Project: 30112891.00006 / Racer PNC  
Submitted Date/Time: 10/03/2022 15:40  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-4)  
Prep Batch Summary (Page 5)  
Surrogates per Lab Sample (Pages 6-8)  
Surrogates per QC Sample (Pages 9-10)  
Batch QC Results (Pages 11-16)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S41000.01**

Sample Tag: MWOS-01\_GW-100322

Collected Date/Time: 10/03/2022 09:40

Matrix: Groundwater

COC Reference: 154480

| Analysis                           | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|------------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b><i>Metals</i></b>               |               |                |              |              |      |                |
| Manganese, Dissolved               | E200.8        | 10/05/22 14:06 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD |
| Manganese                          | E200.8        | 10/05/22 14:05 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD |
| <b><i>Organics - Volatiles</i></b> |               |                |              |              |      |                |
| Volatile Organics - Arcadis        | SW5030C/8260C | 10/04/22 18:09 | 221003C7     | VF221003W5   | Yes  | BLK/LCS/LCSD   |

## QC Report - Analysis Summary

**Lab Sample ID: S41000.02**

Sample Tag: tripblank

Collected Date/Time: 10/03/2022 00:01

Matrix: Water

COC Reference: 154480

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/04/22 13:04 | 221003C7 | VF221003W5 | Yes  | BLK/LCS/LCSD |

## QC Report - Analysis Summary

**Lab Sample ID: S41000.03**

Sample Tag: MWOS-03\_GW-100322

Collected Date/Time: 10/03/2022 10:35

Matrix: Groundwater

COC Reference: 154480

| Analysis                                 | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|------------------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b><i>Metals</i></b>                     |               |                |              |              |      |                |
| Vanadium, Dissolved                      | E200.8        | 10/05/22 14:09 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD |
| Vanadium                                 | E200.8        | 10/05/22 14:07 | MT4-22-1005A | MTD-100522-3 | No   | BLK/LCS/MS/MSD |
| <b><i>Organics - PCBs/Pesticides</i></b> |               |                |              |              |      |                |
| PCB                                      | E608.3        | 10/10/22 11:58 | E221010      | PA221007W1   | Yes  | BLK/LCS/LCSD   |
| <b><i>Organics - Volatiles</i></b>       |               |                |              |              |      |                |
| Volatile Organics - Arcadis              | SW5030C/8260C | 10/04/22 17:45 | 221003C7     | VF221003W5   | Yes  | BLK/LCS/LCSD   |

## QC Report - Prep Batch Summary

### Metals, Prep Batch ID: MTD-100522-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis             | Method | Run Date/Time  | Batch ID     |
|-----------|----------------------|--------|----------------|--------------|
| S41000.01 | Manganese, Dissolved | E200.8 | 10/05/22 14:06 | MT4-22-1005A |
| S41000.01 | Manganese            | E200.8 | 10/05/22 14:05 | MT4-22-1005A |
| S41000.03 | Vanadium, Dissolved  | E200.8 | 10/05/22 14:09 | MT4-22-1005A |
| S41000.03 | Vanadium             | E200.8 | 10/05/22 14:07 | MT4-22-1005A |

### Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S41000.03 | PCB      | E608.3 | 10/10/22 11:58 | E221010  |

### Organics - Volatiles, Prep Batch ID: VF221003W5

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S41000.01 | Volatile Organics - Arcadis | SW5030C/8260C | 10/04/22 18:09 | 221003C7 |
| S41000.02 | Volatile Organics - Arcadis | SW5030C/8260C | 10/04/22 13:04 | 221003C7 |
| S41000.03 | Volatile Organics - Arcadis | SW5030C/8260C | 10/04/22 17:45 | 221003C7 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S41000.01**

Sample Tag: MWOS-01\_GW-100322

Collected Date/Time: 10/03/2022 09:40

Matrix: Groundwater

COC Reference: 154480

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221003C7, Run Date: 10/04/2022 18:09, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>110.1</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>89.3</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.3</b> | 89.0 | 112.0 |



## QC Report - Surrogates per Lab Sample

Lab Sample ID: S41000.02

Sample Tag: tripblank

Collected Date/Time: 10/03/2022 00:01

Matrix: Water

COC Reference: 154480

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221003C7, Run Date: 10/04/2022 13:04, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 110.7 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 92.3  | 72.0 | 125.0 |
| Toluene-D8            |       | 99.4  | 89.0 | 112.0 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S41000.03

Sample Tag: MWOS-03\_GW-100322

Collected Date/Time: 10/03/2022 10:35

Matrix: Groundwater

COC Reference: 154480

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221010, Run Date: 10/10/2022 11:58, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 78.10 | 34.1 | 137.1 |
| DCBP      |       | 77.60 | 30.0 | 138.6 |

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221003C7, Run Date: 10/04/2022 17:45, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec  | LCL  | UCL   |
|-----------------------|-------|-------|------|-------|
| 4-Bromofluorobenzene  |       | 108.4 | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | 90.0  | 72.0 | 125.0 |
| Toluene-D8            |       | 99.7  | 89.0 | 112.0 |

# QC Report - Surrogates per QC Sample

## Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22100706.sblk-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:28, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 68.30 | 34.1 | 137.1 |
| DCBP      |       | 83.30 | 30.0 | 138.6 |

### Blank (BLK)

Lab Sample ID: b22101004.sblk-w.01

Run in Batch: B221010, Run Date: 10/10/2022 11:09, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 84.30 | 34.1 | 137.1 |
| DCBP      |       | 78.20 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:40, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 87.20 | 34.1 | 137.1 |
| DCBP      |       | 88.00 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: b22101005.slcs-w.01

Run in Batch: B221010, Run Date: 10/10/2022 11:55, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 81.10 | 34.1 | 137.1 |
| DCBP      |       | 80.50 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100708.slcs-w.01d, Parent Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:51, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 85.20 | 34.1 | 137.1 |
| DCBP      |       | 86.40 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: b22101006.slcs-w.01d, Parent Sample ID: b22101005.slcs-w.01

Run in Batch: B221010, Run Date: 10/10/2022 12:16, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 79.90 | 34.1 | 137.1 |
| DCBP      |       | 79.70 | 30.0 | 138.6 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF221003W5

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221003C7.BLKW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 12:40, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>110.4</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>92.4</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.0</b> | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:05, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>92.7</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.9</b> | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221003C7.LCSDW03C, Parent Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:29, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>90.8</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>99.1</b>  | 89.0 | 112.0 |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-1005A.069.LRB

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:09, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL   | Units |
|-----------|-------|------|-------|-------|
| Manganese |       | ND   | 0.001 | mg/L  |
| Vanadium  |       | ND   | 0.001 | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005A.067.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:06, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Manganese |       | 101   | 85  | 115 |
| Vanadium  |       | 101   | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.087.MS, Parent Sample ID: S40793.04

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:40, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Manganese |       | 99    | 75  | 125 |
| Vanadium  |       | 100   | 75  | 125 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.107.MS, Parent Sample ID: S40972.01

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 14:11, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Manganese |       | 98    | 75  | 125 |
| Vanadium  |       | 102   | 75  | 125 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.088.MSD, Parent Sample ID: MT4-22-1005A.087.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:41, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Manganese |       | 99    | 75  | 125 | 0   | 20     |
| Vanadium  |       | 98    | 75  | 125 | 2   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.108.MSD, Parent Sample ID: MT4-22-1005A.107.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 14:12, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Manganese |       | 96    | 75  | 125 | 1   | 20     |
| Vanadium  |       | 99    | 75  | 125 | 2   | 20     |

## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22100706.sblk-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:28, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:40, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 94.74 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100708.slcs-w.01d, Parent Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:51, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------|-------|-------|------|-------|-----|--------|
| PCB-1016/1260 |       | 95.82 | 50.0 | 125.0 | 1.1 | 20.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W5

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 221003C7.BLKW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 12:40, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W5 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Blank (BLK) (continued)

Lab Sample ID: 221003C7.BLKW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 12:40, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:05, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 97.1  | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 87.8  | 44.0 | 134.4 |
| Benzene                        |       | 104.2 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 97.7  | 80.4 | 128.2 |
| Bromoform                      |       | 92.8  | 69.4 | 128.0 |
| Bromomethane                   |       | 104.2 | 56.8 | 151.3 |
| Carbon disulfide               |       | 87.1  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 80.1  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 109.2 | 79.2 | 122.7 |
| Chloroethane                   |       | 97.1  | 53.4 | 149.4 |
| Chloroform                     |       | 102.3 | 78.4 | 124.0 |
| Chloromethane                  |       | 96.5  | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 91.7  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 105.4 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 94.5  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 101.3 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 103.8 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 104.3 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 104.4 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 96.5  | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 82.2  | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 95.6  | 73.6 | 129.3 |
| Ethylbenzene                   |       | 104.8 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 90.2  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 94.5  | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 100.3 | 73.2 | 122.4 |
| Methylene chloride             |       | 103.3 | 73.3 | 121.1 |
| Styrene                        |       | 108.2 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 87.0  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 103.8 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 110.5 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 101.3 | 74.5 | 124.5 |
| Toluene                        |       | 104.1 | 79.8 | 124.5 |
| Trichloroethene                |       | 100.1 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 82.0  | 59.7 | 151.8 |
| Vinyl chloride                 |       | 95.4  | 43.5 | 149.1 |
| o-Xylene                       |       | 107.2 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 105.0 | 79.4 | 132.2 |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W5 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:05, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 105.4 | 74.4 | 121.5 |
| Cyclohexane                           |       | 78.5  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 98.5  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 86.8  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 91.8  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 89.7  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 84.6  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 103.5 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 104.6 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 94.7  | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 90.9  | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221003C7.LCSDW03C, Parent Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:29, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|--------------------------------|-------|-------|------|-------|------|--------|
| Acetone                        |       | 99.1  | 29.9 | 161.5 | 2.0  | 30.0   |
| 2-Butanone (MEK)               |       | 91.5  | 44.0 | 134.4 | 4.2  | 30.0   |
| Benzene                        |       | 108.2 | 79.9 | 124.9 | 3.8  | 30.0   |
| Bromodichloromethane           |       | 104.1 | 80.4 | 128.2 | 6.4  | 30.0   |
| Bromoform                      |       | 101.7 | 69.4 | 128.0 | 9.2  | 30.0   |
| Bromomethane                   |       | 104.1 | 56.8 | 151.3 | 0.1  | 30.0   |
| Carbon disulfide               |       | 88.5  | 63.8 | 137.4 | 1.6  | 30.0   |
| Carbon tetrachloride           |       | 82.3  | 72.6 | 133.0 | 2.7  | 30.0   |
| Chlorobenzene                  |       | 116.5 | 79.2 | 122.7 | 6.4  | 30.0   |
| Chloroethane                   |       | 99.2  | 53.4 | 149.4 | 2.2  | 30.0   |
| Chloroform                     |       | 106.2 | 78.4 | 124.0 | 3.7  | 30.0   |
| Chloromethane                  |       | 99.3  | 23.8 | 166.5 | 2.9  | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 101.3 | 21.2 | 189.4 | 10.0 | 30.0   |
| 1,2-Dichlorobenzene            |       | 113.5 | 10.0 | 166.2 | 7.4  | 30.0   |
| 1,2-Dichloroethane             |       | 100.4 | 76.0 | 126.3 | 6.1  | 30.0   |
| 1,2-Dichloropropane            |       | 106.1 | 78.6 | 126.4 | 4.7  | 30.0   |
| 1,3-Dichlorobenzene            |       | 110.9 | 77.0 | 131.3 | 6.6  | 30.0   |
| 1,4-Dichlorobenzene            |       | 111.2 | 20.7 | 137.7 | 6.4  | 30.0   |
| cis-1,2-Dichloroethene         |       | 108.3 | 76.6 | 122.1 | 3.7  | 30.0   |
| Dibromochloromethane           |       | 105.2 | 74.6 | 127.2 | 8.6  | 30.0   |
| Dichlorodifluoromethane        |       | 83.1  | 10.0 | 222.8 | 1.1  | 30.0   |
| trans-1,2-Dichloroethene       |       | 98.3  | 73.6 | 129.3 | 2.7  | 30.0   |
| Ethylbenzene                   |       | 110.6 | 79.5 | 129.1 | 5.4  | 30.0   |
| 2-Hexanone                     |       | 95.9  | 55.4 | 136.9 | 6.1  | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 98.2  | 71.6 | 125.2 | 3.8  | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 105.8 | 73.2 | 122.4 | 5.4  | 30.0   |
| Methylene chloride             |       | 108.2 | 73.3 | 121.1 | 4.7  | 30.0   |
| Styrene                        |       | 114.7 | 69.5 | 126.7 | 5.8  | 30.0   |
| 1,1,1-Trichloroethane          |       | 88.9  | 79.4 | 130.9 | 2.1  | 30.0   |
| 1,1,2-Trichloroethane          |       | 111.8 | 78.7 | 123.1 | 7.4  | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221003W5 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 221003C7.LCSDW03C, Parent Sample ID: 221003C7.LCSW03C

Run in Batch: 221003C7, Run Date: 10/04/2022 11:29, Prep Date: 10/04/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 118.9 | 27.4 | 143.4 | 7.3 | 30.0   |
| Tetrachloroethene                     |       | 104.0 | 74.5 | 124.5 | 2.6 | 30.0   |
| Toluene                               |       | 107.9 | 79.8 | 124.5 | 3.6 | 30.0   |
| Trichloroethene                       |       | 104.8 | 79.7 | 124.2 | 4.5 | 30.0   |
| Trichlorofluoromethane                |       | 83.0  | 59.7 | 151.8 | 1.1 | 30.0   |
| Vinyl chloride                        |       | 97.2  | 43.5 | 149.1 | 1.9 | 30.0   |
| o-Xylene                              |       | 112.1 | 80.2 | 131.0 | 4.4 | 30.0   |
| p,m-Xylene                            |       | 110.3 | 79.4 | 132.2 | 4.9 | 30.0   |
| Isopropylbenzene                      |       | 109.8 | 74.4 | 121.5 | 4.2 | 30.0   |
| Cyclohexane                           |       | 79.5  | 10.0 | 169.1 | 1.2 | 30.0   |
| 1,1-Dichloroethane                    |       | 102.5 | 71.5 | 126.2 | 4.0 | 30.0   |
| 1,1-Dichloroethene                    |       | 89.2  | 69.6 | 139.4 | 2.7 | 30.0   |
| Methyl Acetate                        |       | 97.1  | 64.7 | 125.4 | 5.6 | 30.0   |
| Methyl cyclohexane                    |       | 90.0  | 76.6 | 131.3 | 0.3 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 84.4  | 75.1 | 135.9 | 0.2 | 30.0   |
| 1,2-Dibromoethane                     |       | 113.9 | 70.3 | 133.7 | 9.6 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 112.9 | 79.8 | 126.3 | 7.7 | 30.0   |
| cis-1,3-Dichloropropene               |       | 100.8 | 79.8 | 129.9 | 6.2 | 30.0   |
| trans-1,3-Dichloropropene             |       | 97.5  | 74.0 | 131.3 | 7.0 | 30.0   |

## REPORT TO

|                                                                          |  |             |                            |
|--------------------------------------------------------------------------|--|-------------|----------------------------|
| CONTACT NAME<br>Alexis Crisp                                             |  |             |                            |
| COMPANY<br>Arcadis                                                       |  |             |                            |
| ADDRESS<br>28550 Cabot Dr #500                                           |  |             |                            |
| CITY<br>NOVI                                                             |  | STATE<br>MI | ZIP CODE<br>48377          |
| PHONE NO.                                                                |  | CELL NO.    | P.O. NO.<br>30112891.00006 |
| E-MAIL ADDRESS<br>tiffany.linder@arcadis.com<br>Alexis.Crisp@arcadis.com |  |             | QUOTE NO.                  |

## CHAIN OF CUSTODY RECORD

|              |  |                                             |  |                               |          |
|--------------|--|---------------------------------------------|--|-------------------------------|----------|
| CONTACT NAME |  | Accounts Payable                            |  | <input type="checkbox"/> 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 |  |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| PROJECT NO./NAME<br><u>3012891.00006 / Racer PNC</u>                                                                                                                                                                                              | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><u>Sommer Guy / Sommer Guy</u> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                       |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER _____ |                                                                       |

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

## # Containers & Preservatives

[illegible]

|                        |                      |           |         |       |
|------------------------|----------------------|-----------|---------|-------|
| RELINQUISHED BY:       | Sommer Day / Arcadis | ✓ Sampler | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                      |           | 10/3/22 | 13:22 |
| RECEIVED BY:           | J. Miller            |           | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                      |           | 10/3/22 | 13:20 |
| RELINQUISHED BY:       | J. Miller            |           | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                      |           | 10/3/22 | 15:40 |
| RECEIVED BY:           | M. Gilcote           |           | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                      |           | 10/3/22 | 15:40 |

|                                            |                                                                         |          |        |                             |
|--------------------------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE   | TIME                        |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE   | TIME                        |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>3.8</u> |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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

Rev. 1.26.22



# Analytical Laboratory Report

Report ID: S41030.01(01)  
Generated on 10/11/2022

**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, Ian Drost

**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): S41030.01-S41030.02  
Project: 30112891.00006 / Racer PNC  
Collected Date(s): 10/03/2022  
Submitted Date/Time: 10/04/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

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- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

---

There is no additional narrative for this analytical report

## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                                                |
|---------------|------------------------------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                                          |
| E245.1        | EPA Method 245.1 Revision 3.0                                          |
| E608.3        | EPA Method 608.3 December 2016                                         |
| N/A           | Not Applicable                                                         |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007                           |
| SW3510C       | SW 846 Method 3510C Revision 3 December 1996                           |
| SW5030C/8260C | SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003 |
| SW8260B - SIM | SW 846 Method 8260B Revision 2 December 1996 SIMs                      |
| SW8270D       | SW 846 Method 8270D Revision 4 February 2007                           |



# Analytical Laboratory Report

**Sample Summary (2 samples)**

| Sample ID | Sample Tag        | Matrix      | Collected Date/Time |
|-----------|-------------------|-------------|---------------------|
| S41030.01 | MWOS-05_GW-100322 | Groundwater | 10/03/22 14:15      |
| S41030.02 | tripblank         | Water       | 10/03/22 00:01      |





# Analytical Laboratory Report

Lab Sample ID: S41030.01

Sample Tag: MWOS-05\_GW-100322

Collected Date/Time: 10/03/2022 14:15

Matrix: Groundwater

COC Reference: 154481

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 2.4               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 2.4               | IR            |
| 3 | 1L Amber      | None            | Yes           | 2.4               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/06/22 13:27 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/10/22 12:30 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 10/07/22 10:00 | JWR     |       |
| PNA Extraction     | Completed | SW3510C | 10/10/22 10:00 | TAW     |       |

## Metals

Method: E200.8, Run Date: 10/05/22 14:58, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Arsenic   | 0.004  | 0.002 |     | mg/L  | 5        | 7440-38-2 |       |

Method: E200.8, Run Date: 10/05/22 12:17, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Barium    | 0.090        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 1.46         | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | Not detected | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

Method: E245.1, Run Date: 10/06/22 16:10, Analyst: CTV

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

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/10/22 12:12, Analyst: JANB

| Parameter | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-----------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1016  | Not detected | 0.1 |     | ug/L  | 1        | 12674-11-2 |       |
| PCB-1221  | Not detected | 0.1 |     | ug/L  | 1        | 11104-28-2 |       |
| PCB-1232  | Not detected | 0.1 |     | ug/L  | 1        | 11141-16-5 |       |
| PCB-1242  | Not detected | 0.1 |     | ug/L  | 1        | 53469-21-9 |       |



# Analytical Laboratory Report

Lab Sample ID: S41030.01 (continued)

Sample Tag: MWOS-05\_GW-100322

**PCB, Method: E608.3, Run Date: 10/10/22 12:12, Analyst: JANB (continued)**

| Parameter   | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-------------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1248    | Not detected | 0.1 |     | ug/L  | 1        | 12672-29-6 |       |
| PCB-1254    | Not detected | 0.1 |     | ug/L  | 1        | 11097-69-1 |       |
| PCB-1260    | Not detected | 0.1 |     | ug/L  | 1        | 11096-82-5 |       |
| PCB, Total* | Not detected | 0.1 |     | ug/L  | 1        | 1336-36-3  |       |

**Organics - Semi-Volatiles**

**Method: SW8270D, Run Date: 10/10/22 22:30, Analyst: JGH**

| Parameter    | Result       | RL | MDL | Units | Dilution | CAS#    | Flags |
|--------------|--------------|----|-----|-------|----------|---------|-------|
| Phenanthrene | Not detected | 2  |     | ug/L  | 2        | 85-01-8 |       |

**Organics - Volatiles**

**Method: SW8260B - SIM, Run Date: 10/08/22 01:57, Analyst: KAG**

| Parameter    | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | Not detected | 1  |     | ug/L  | 1        | 123-91-1 |       |



# Analytical Laboratory Report

Lab Sample ID: S41030.02

Sample Tag: tripblank

Collected Date/Time: 10/03/2022 00:01

Matrix: Water

COC Reference: 154481

## Sample Containers

| # | Type       | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|------------|-----------------|---------------|-------------------|---------------|
| 1 | 40ml Glass | HCL             | Yes           | 2.4               | IR            |

## Extraction / Prep.

| Parameter          | Result | Method | Run Date       | Analyst | Flags |
|--------------------|--------|--------|----------------|---------|-------|
| pH check for VOCs* | <2     | N/A    | 10/07/22 11:00 | BDO     |       |

## Organics - Volatiles

**Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/07/22 02:27, Analyst: KAG**

| Parameter                      | Result       | RL | MDL | Units | Dilution | CAS#      | Flags |
|--------------------------------|--------------|----|-----|-------|----------|-----------|-------|
| Acetone                        | Not detected | 50 |     | ug/L  | 1        | 67-64-1   |       |
| 2-Butanone (MEK)               | Not detected | 25 |     | ug/L  | 1        | 78-93-3   |       |
| Benzene                        | Not detected | 1  |     | ug/L  | 1        | 71-43-2   |       |
| Bromodichloromethane           | Not detected | 1  |     | ug/L  | 1        | 75-27-4   |       |
| Bromoform                      | Not detected | 1  |     | ug/L  | 1        | 75-25-2   |       |
| Bromomethane                   | Not detected | 5  |     | ug/L  | 1        | 74-83-9   |       |
| Carbon disulfide               | Not detected | 5  |     | ug/L  | 1        | 75-15-0   |       |
| Carbon tetrachloride           | Not detected | 1  |     | ug/L  | 1        | 56-23-5   |       |
| Chlorobenzene                  | Not detected | 1  |     | ug/L  | 1        | 108-90-7  |       |
| Chloroethane                   | Not detected | 5  |     | ug/L  | 1        | 75-00-3   |       |
| Chloroform                     | Not detected | 1  |     | ug/L  | 1        | 67-66-3   |       |
| Chloromethane                  | Not detected | 5  |     | ug/L  | 1        | 74-87-3   |       |
| 1,2-Dibromo-3-chloropropane    | Not detected | 5  |     | ug/L  | 1        | 96-12-8   |       |
| 1,2-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 95-50-1   |       |
| 1,2-Dichloroethane             | Not detected | 1  |     | ug/L  | 1        | 107-06-2  |       |
| 1,2-Dichloropropane            | Not detected | 1  |     | ug/L  | 1        | 78-87-5   |       |
| 1,3-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 541-73-1  |       |
| 1,4-Dichlorobenzene            | Not detected | 1  |     | ug/L  | 1        | 106-46-7  |       |
| cis-1,2-Dichloroethene         | Not detected | 1  |     | ug/L  | 1        | 156-59-2  |       |
| Dibromochloromethane           | Not detected | 5  |     | ug/L  | 1        | 124-48-1  |       |
| Dichlorodifluoromethane        | Not detected | 5  |     | ug/L  | 1        | 75-71-8   |       |
| trans-1,2-Dichloroethene       | Not detected | 1  |     | ug/L  | 1        | 156-60-5  |       |
| Ethylbenzene                   | Not detected | 1  |     | ug/L  | 1        | 100-41-4  |       |
| 2-Hexanone                     | Not detected | 50 |     | ug/L  | 1        | 591-78-6  |       |
| 4-Methyl-2-pentanone (MIBK)    | Not detected | 50 |     | ug/L  | 1        | 108-10-1  |       |
| tert-Methyl butyl ether (MTBE) | Not detected | 5  |     | ug/L  | 1        | 1634-04-4 |       |
| Methylene chloride             | Not detected | 5  |     | ug/L  | 1        | 75-09-2   |       |
| Styrene                        | Not detected | 1  |     | ug/L  | 1        | 100-42-5  |       |
| 1,1,1-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 71-55-6   |       |
| 1,1,2-Trichloroethane          | Not detected | 1  |     | ug/L  | 1        | 79-00-5   |       |
| 1,2,4-Trichlorobenzene         | Not detected | 5  |     | ug/L  | 1        | 120-82-1  |       |
| Tetrachloroethene              | Not detected | 1  |     | ug/L  | 1        | 127-18-4  |       |
| Toluene                        | Not detected | 1  |     | ug/L  | 1        | 108-88-3  |       |
| Trichloroethene                | Not detected | 1  |     | ug/L  | 1        | 79-01-6   |       |
| Trichlorofluoromethane         | Not detected | 1  |     | ug/L  | 1        | 75-69-4   |       |
| Vinyl chloride                 | Not detected | 1  |     | ug/L  | 1        | 75-01-4   |       |
| o-Xylene                       | Not detected | 1  |     | ug/L  | 1        | 95-47-6   |       |



# Analytical Laboratory Report

Lab Sample ID: S41030.02 (continued)

Sample Tag: tripblank

Volatile Organics - Arcadis, Method: SW5030C/8260C, Run Date: 10/07/22 02:27, Analyst: KAG (continued)

| Parameter                             | Result       | RL | MDL | Units | Dilution | CAS#       | Flags |
|---------------------------------------|--------------|----|-----|-------|----------|------------|-------|
| p,m-Xylene*                           | Not detected | 2  |     | ug/L  | 1        |            |       |
| Isopropylbenzene                      | Not detected | 1  |     | ug/L  | 1        | 98-82-8    |       |
| Cyclohexane                           | Not detected | 1  |     | ug/L  | 1        | 110-82-7   |       |
| 1,1-Dichloroethane                    | Not detected | 1  |     | ug/L  | 1        | 75-34-3    |       |
| 1,1-Dichloroethene                    | Not detected | 1  |     | ug/L  | 1        | 75-35-4    |       |
| Methyl Acetate                        | Not detected | 10 |     | ug/L  | 1        | 79-20-9    |       |
| Methyl cyclohexane                    | Not detected | 1  |     | ug/L  | 1        | 108-87-2   |       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Not detected | 1  |     | ug/L  | 1        | 76-13-1    |       |
| 1,2-Dibromoethane                     | Not detected | 1  |     | ug/L  | 1        | 106-93-4   |       |
| 1,1,2,2-Tetrachloroethane             | Not detected | 1  |     | ug/L  | 1        | 79-34-5    |       |
| cis-1,3-Dichloropropene               | Not detected | 1  |     | ug/L  | 1        | 10061-01-5 |       |
| trans-1,3-Dichloropropene             | Not detected | 1  |     | ug/L  | 1        | 10061-02-6 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S41030

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Submitted: 10/04/2022 16:00 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   |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------|
| <b>Sample Receiving</b>                                                                              |                                                        |        |
| 01. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer #        | IR 2.4 |
| 02. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |        |
| 03. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |        |
| 04. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |        |
| 05. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |        |
| <b>Chain of Custody</b>                                                                              |                                                        |        |
| 06. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |        |
| 07. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |        |
| 08. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |        |
| 09. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |        |
| <b>Preservation</b>                                                                                  |                                                        |        |
| 10. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |        |
| 11. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |        |
| 12. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |        |
| <b>Bottle Conditions</b>                                                                             |                                                        |        |
| 13. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |        |
| 14. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |        |
| 15. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |        |
| 16. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |        |
| 17. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |        |
| 18. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |        |
| 19. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_

## Merit Laboratories Bottle Preservation Check

Lab Set ID: S41030      Submitted: 10/04/2022 16:00

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Initial Preservation Check: 10/04/2022 16:17 MMC

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S41030.01 | 125ml Plastic HNO3    | <2        |        |          |       |

## REPORT TO

|                                                        |          |                     |          |
|--------------------------------------------------------|----------|---------------------|----------|
| CONTACT NAME                                           |          | Alexis Crisp        |          |
| COMPANY                                                |          | Arcadis             |          |
| ADDRESS                                                |          | 28550 Cabot Dr #500 |          |
| CITY                                                   |          | STATE               | ZIP CODE |
| Novi                                                   |          | MI                  | 48317    |
| PHONE NO.                                              | CELL NO. | P.O. NO.            |          |
|                                                        |          | 30112891.00006      |          |
| E-MAIL ADDRESS                                         |          | QUOTE NO.           |          |
| tiffany.linder@arcadis.com<br>Alexis.crisp@arcadis.com |          |                     |          |

## CHAIN OF CUSTODY RECORD

|              |  |                                             |  |                               |          |
|--------------|--|---------------------------------------------|--|-------------------------------|----------|
| CONTACT NAME |  | Accounts Payable                            |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  | Arcadis                                     |  |                               |          |
| ADDRESS      |  | 630 Plaza Dr #1200                          |  |                               |          |
| CITY         |  | Highlands Ranch                             |  | STATE                         | ZIP CODE |
|              |  |                                             |  | CO                            | 80129    |
| PHONE NO.    |  | E-MAIL ADDRESS                              |  |                               |          |
|              |  | accounts.payable.administration@arcadis.com |  |                               |          |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| PROJECT NO./NAME <u>30112891.00006 / Racer PNC</u>                                                                                                                                                                                                | SAMPLER(S) - PLEASE PRINT/ SIGN NAME<br><u>Sommer Guy / Sommer Guy</u> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                        |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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]

|                        |                           |         |       |
|------------------------|---------------------------|---------|-------|
| RELINQUISHED BY:       | <i>Dommer Day Arcades</i> | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                           | 10/4/22 | 13:20 |
| RECEIVED BY:           | <i>J. M. Miller</i>       | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                           | 10/4/22 | 13:20 |
| RELINQUISHED BY:       | <i>J. M. Miller</i>       | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                           | 10/4/22 | 10:20 |
| RECEIVED BY:           | <i>M. (Chalco)</i>        | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                           | 10/4/22 | 16:00 |

|                        |                                                                         |          |        |                             |
|------------------------|-------------------------------------------------------------------------|----------|--------|-----------------------------|
| RELINQUISHED BY:       |                                                                         |          | DATE   | TIME                        |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                             |
| RECEIVED BY:           |                                                                         |          | DATE   | TIME                        |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                             |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL <u>2.4</u> |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |        |                             |

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



# Quality Control Report

Report ID: QC-S41030-01  
Generated on 10/12/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S41030.01-S41030.02  
Project: 30112891.00006 / Racer PNC  
Submitted Date/Time: 10/04/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-3)  
Prep Batch Summary (Page 4)  
Surrogates per Lab Sample (Pages 5-6)  
Surrogates per QC Sample (Pages 7-10)  
Batch QC Results (Pages 11-22)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager



# QC Report - Analysis Summary

**Lab Sample ID: S41030.01**

Sample Tag: MWOS-05\_GW-100322

Collected Date/Time: 10/03/2022 14:15

Matrix: Groundwater

COC Reference: 154481

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|-----------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b>Metals</b>                     |               |                |              |              |      |                |
| Antimony                          | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                           | E200.8        | 10/05/22 14:58 | MT4-22-1005B | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Barium                            | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                         | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                           | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Chromium                          | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                            | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Copper                            | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Lead                              | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Manganese                         | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Mercury                           | E245.1        | 10/06/22 16:10 | HG-22-1006A  | HGD-100622-2 | No   | BLK/LCS/MS/MSD |
| Nickel                            | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Selenium                          | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Silver                            | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Thallium                          | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                          | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Zinc                              | E200.8        | 10/05/22 12:17 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                |
| PCB                               | E608.3        | 10/10/22 12:12 | E221010      | PA221007W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Semi-Volatiles</b>  |               |                |              |              |      |                |
| Phenanthrene                      | SW8270D       | 10/10/22 22:30 | H221010B     | SP221010W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                |
| 1,4-Dioxane                       | SW8260B - SIM | 10/08/22 01:57 | 221007B9     | VS221007W1   | Yes  | BLK/LCS/LCSD   |

## QC Report - Analysis Summary

**Lab Sample ID: S41030.02**

Sample Tag: tripblank

Collected Date/Time: 10/03/2022 00:01

Matrix: Water

COC Reference: 154481

| Analysis                    | Method        | Run Date/Time  | Batch ID | Prep ID    | Surr | QC Types     |
|-----------------------------|---------------|----------------|----------|------------|------|--------------|
| <b>Organics - Volatiles</b> |               |                |          |            |      |              |
| Volatile Organics - Arcadis | SW5030C/8260C | 10/07/22 02:27 | 221006B7 | VF221006W3 | Yes  | BLK/LCS/LCSD |

## QC Report - Prep Batch Summary

### Metals, Prep Batch ID: HGD-100622-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID    |
|-----------|----------|--------|----------------|-------------|
| S41030.01 | Mercury  | E245.1 | 10/06/22 16:10 | HG-22-1006A |

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S41030.01 | Antimony  | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Arsenic   | E200.8 | 10/05/22 14:58 | MT4-22-1005B |
| S41030.01 | Barium    | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Beryllium | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Cadmium   | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Chromium  | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Cobalt    | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Copper    | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Lead      | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Manganese | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Nickel    | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Selenium  | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Silver    | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Thallium  | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Vanadium  | E200.8 | 10/05/22 12:17 | MT4-22-1005A |
| S41030.01 | Zinc      | E200.8 | 10/05/22 12:17 | MT4-22-1005A |

### Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S41030.01 | PCB      | E608.3 | 10/10/22 12:12 | E221010  |

### Organics - Semi-Volatiles, Prep Batch ID: SP221010W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis     | Method  | Run Date/Time  | Batch ID |
|-----------|--------------|---------|----------------|----------|
| S41030.01 | Phenanthrene | SW8270D | 10/10/22 22:30 | H221010B |

### Organics - Volatiles, Prep Batch ID: VF221006W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis                    | Method        | Run Date/Time  | Batch ID |
|-----------|-----------------------------|---------------|----------------|----------|
| S41030.02 | Volatile Organics - Arcadis | SW5030C/8260C | 10/07/22 02:27 | 221006B7 |

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis    | Method        | Run Date/Time  | Batch ID |
|-----------|-------------|---------------|----------------|----------|
| S41030.01 | 1,4-Dioxane | SW8260B - SIM | 10/08/22 01:57 | 221007B9 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S41030.01**

Sample Tag: MWOS-05\_GW-100322

Collected Date/Time: 10/03/2022 14:15

Matrix: Groundwater

COC Reference: 154481

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221010, Run Date: 10/10/2022 12:12, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 71.60 | 34.1 | 137.1 |
| DCBP      |       | 75.50 | 30.0 | 138.6 |

### Organics - Semi-Volatiles, Analysis: Phenanthrene

Run in Batch: H221010B, Run Date: 10/10/2022 22:30, Matrix: WW, Dilution: 2

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 67.6 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 67.3 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 83.8 | 10.0 | 141.0 |

## QC Report - Surrogates per Lab Sample

**Lab Sample ID: S41030.02**

Sample Tag: tripblank

Collected Date/Time: 10/03/2022 00:01

Matrix: Water

COC Reference: 154481

### Organics - Volatiles, Analysis: Volatile Organics - Arcadis

Run in Batch: 221006B7, Run Date: 10/07/2022 02:27, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>110.3</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>90.5</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.4</b> | 89.0 | 112.0 |

# QC Report - Surrogates per QC Sample

## Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22100706.sblk-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:28, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 68.30 | 34.1 | 137.1 |
| DCBP      |       | 83.30 | 30.0 | 138.6 |

### Blank (BLK)

Lab Sample ID: b22101004.sblk-w.01

Run in Batch: B221010, Run Date: 10/10/2022 11:09, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 84.30 | 34.1 | 137.1 |
| DCBP      |       | 78.20 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:40, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 87.20 | 34.1 | 137.1 |
| DCBP      |       | 88.00 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: b22101005.slcs-w.01

Run in Batch: B221010, Run Date: 10/10/2022 11:55, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 81.10 | 34.1 | 137.1 |
| DCBP      |       | 80.50 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100708.slcs-w.01d, Parent Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:51, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 85.20 | 34.1 | 137.1 |
| DCBP      |       | 86.40 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: b22101006.slcs-w.01d, Parent Sample ID: b22101005.slcs-w.01

Run in Batch: B221010, Run Date: 10/10/2022 12:16, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 79.90 | 34.1 | 137.1 |
| DCBP      |       | 79.70 | 30.0 | 138.6 |

## QC Report - Surrogates per QC Sample

### Organics - Semi-Volatiles, Prep Batch ID: SP221010W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: H221010B.BLKW10A

Run in Batch: H221010B, Run Date: 10/10/2022 20:48, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 60.4 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 57.5 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 55.8 | 10.0 | 141.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: H221010B.LCSW10A

Run in Batch: H221010B, Run Date: 10/10/2022 21:05, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 70.7 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 69.6 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 78.8 | 10.0 | 141.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221010B.LCSDW10A, Parent Sample ID: H221010B.LCSW10A

Run in Batch: H221010B, Run Date: 10/10/2022 21:22, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 72.8 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 72.1 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 83.8 | 10.0 | 141.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF221006W3

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221006B7.BLKW06B

Run in Batch: 221006B7, Run Date: 10/07/2022 02:04, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>110.8</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>87.1</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>101.2</b> | 89.0 | 112.0 |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221006B7.LCSW06B

Run in Batch: 221006B7, Run Date: 10/07/2022 00:31, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>107.4</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>89.4</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.2</b> | 89.0 | 112.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221006B7.LCSDW06B, Parent Sample ID: 221006B7.LCSW06B

Run in Batch: 221006B7, Run Date: 10/07/2022 00:54, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate             | Flags | %Rec         | LCL  | UCL   |
|-----------------------|-------|--------------|------|-------|
| 4-Bromofluorobenzene  |       | <b>108.6</b> | 80.0 | 124.0 |
| 1,2-Dichloroethane-D4 |       | <b>89.0</b>  | 72.0 | 125.0 |
| Toluene-D8            |       | <b>100.5</b> | 89.0 | 112.0 |



## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VS221007W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: HGD-100622-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: HG-22-1006A.045.LRB

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:30, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL  | Units |
|---------|-------|------|------|-------|
| Mercury |       | ND   | 0.20 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HG-22-1006A.044.LCS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:27, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 101   | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1006A.049.MS, Parent Sample ID: S40939.01

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:44, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 2

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 106   | 80  | 120 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1006A.070.MS, Parent Sample ID: S41063.02

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 16:53, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 118   | 80  | 120 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1006A.050.MSD, Parent Sample ID: HG-22-1006A.049.MS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:47, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 2

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 107   | 80  | 120 | 2   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1006A.071.MSD, Parent Sample ID: HG-22-1006A.070.MS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 16:56, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 107   | 80  | 120 | 9   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: MT4-22-1005A.021.LRB

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:36, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL    | Units |
|-----------|-------|------|--------|-------|
| Antimony  |       | ND   | 0.001  | mg/L  |
| Barium    |       | ND   | 0.001  | mg/L  |
| Beryllium |       | ND   | 0.0002 | mg/L  |
| Cadmium   |       | ND   | 0.0001 | mg/L  |
| Chromium  |       | ND   | 0.001  | mg/L  |
| Cobalt    |       | ND   | 0.001  | mg/L  |
| Copper    |       | ND   | 0.001  | mg/L  |
| Lead      |       | ND   | 0.0006 | mg/L  |
| Manganese |       | ND   | 0.001  | mg/L  |
| Nickel    |       | ND   | 0.001  | mg/L  |
| Selenium  |       | ND   | 0.001  | mg/L  |
| Silver    |       | ND   | 0.0001 | mg/L  |
| Thallium  |       | ND   | 0.0004 | mg/L  |
| Vanadium  |       | ND   | 0.001  | mg/L  |
| Zinc      |       | ND   | 0.001  | mg/L  |

#### Blank (BLK)

Lab Sample ID: MT4-22-1005B.017.LRB

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:50, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL    | Units |
|---------|-------|------|--------|-------|
| Arsenic |       | ND   | 0.0004 | mg/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005A.019.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:33, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 85  | 115 |
| Barium    |       | 99    | 85  | 115 |
| Beryllium |       | 98    | 85  | 115 |
| Cadmium   |       | 100   | 85  | 115 |
| Chromium  |       | 98    | 85  | 115 |
| Cobalt    |       | 99    | 85  | 115 |
| Copper    |       | 100   | 85  | 115 |
| Lead      |       | 102   | 85  | 115 |
| Manganese |       | 98    | 85  | 115 |
| Nickel    |       | 99    | 85  | 115 |
| Selenium  |       | 101   | 85  | 115 |
| Silver    |       | 99    | 85  | 115 |
| Thallium  |       | 100   | 85  | 115 |
| Vanadium  |       | 101   | 85  | 115 |
| Zinc      |       | 97    | 85  | 115 |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005B.016.LCS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:49, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 99    | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.042.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:22, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 75  | 125 |
| Barium    |       | 96    | 75  | 125 |
| Beryllium |       | 106   | 75  | 125 |
| Cadmium   |       | 94    | 75  | 125 |
| Chromium  |       | 98    | 75  | 125 |
| Cobalt    |       | 95    | 75  | 125 |
| Copper    |       | 90    | 75  | 125 |
| Lead      |       | 94    | 75  | 125 |
| Manganese |       | 91    | 75  | 125 |
| Nickel    |       | 98    | 75  | 125 |
| Selenium  |       | 104   | 75  | 125 |
| Silver    |       | 91    | 75  | 125 |
| Thallium  |       | 95    | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 97    | 75  | 125 |

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.062.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:58, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 103   | 75  | 125 |
| Barium    |       | 99    | 75  | 125 |
| Beryllium |       | 105   | 75  | 125 |
| Cadmium   |       | 102   | 75  | 125 |
| Chromium  |       | 102   | 75  | 125 |
| Cobalt    |       | 100   | 75  | 125 |
| Copper    |       | 97    | 75  | 125 |
| Lead      |       | 100   | 75  | 125 |
| Manganese |       | 98    | 75  | 125 |
| Nickel    |       | 101   | 75  | 125 |
| Selenium  |       | 107   | 75  | 125 |
| Silver    |       | 93    | 75  | 125 |
| Thallium  |       | 102   | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 104   | 75  | 125 |

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.029.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 104   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.041.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:10, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 102   | 75  | 125 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.043.MSD, Parent Sample ID: MT4-22-1005A.042.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:23, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 99    | 75  | 125 | 2   | 20     |
| Barium    |       | 96    | 75  | 125 | 0   | 20     |
| Beryllium |       | 104   | 75  | 125 | 2   | 20     |
| Cadmium   |       | 97    | 75  | 125 | 2   | 20     |
| Chromium  |       | 99    | 75  | 125 | 2   | 20     |
| Cobalt    |       | 99    | 75  | 125 | 4   | 20     |
| Copper    |       | 94    | 75  | 125 | 4   | 20     |
| Lead      |       | 94    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 4   | 20     |
| Nickel    |       | 97    | 75  | 125 | 1   | 20     |
| Selenium  |       | 112   | 75  | 125 | 8   | 20     |
| Silver    |       | 91    | 75  | 125 | 1   | 20     |
| Thallium  |       | 96    | 75  | 125 | 1   | 20     |
| Vanadium  |       | 104   | 75  | 125 | 1   | 20     |
| Zinc      |       | 98    | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 100   | 75  | 125 | 2   | 20     |
| Barium    |       | 99    | 75  | 125 | 0   | 20     |
| Beryllium |       | 105   | 75  | 125 | 0   | 20     |
| Cadmium   |       | 100   | 75  | 125 | 1   | 20     |
| Chromium  |       | 100   | 75  | 125 | 2   | 20     |
| Cobalt    |       | 100   | 75  | 125 | 0   | 20     |
| Copper    |       | 98    | 75  | 125 | 1   | 20     |
| Lead      |       | 99    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 2   | 20     |
| Nickel    |       | 98    | 75  | 125 | 3   | 20     |
| Selenium  |       | 107   | 75  | 125 | 0   | 20     |
| Silver    |       | 91    | 75  | 125 | 3   | 20     |
| Thallium  |       | 100   | 75  | 125 | 1   | 20     |
| Vanadium  |       | 102   | 75  | 125 | 1   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Zinc    |       | 106   | 75  | 125 | 3   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.030.MSD, Parent Sample ID: MT4-22-1005B.029.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:01, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 104   | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.042.MSD, Parent Sample ID: MT4-22-1005B.041.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:11, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 102   | 75  | 125 | 0   | 20     |

## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22100706.sblk-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:28, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:40, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 94.74 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100708.slcs-w.01d, Parent Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:51, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------|-------|-------|------|-------|-----|--------|
| PCB-1016/1260 |       | 95.82 | 50.0 | 125.0 | 1.1 | 20.0   |

## QC Report - Batch QC Results

### Organics - Semi-Volatiles, Prep Batch ID: SP221010W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: H221010B.BLKW10A

Run in Batch: H221010B, Run Date: 10/10/2022 20:48, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | Conc | RDL     | Units |
|--------------|-------|------|---------|-------|
| Phenanthrene |       | ND   | 0.00050 | mg/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: H221010B.LCSW10A

Run in Batch: H221010B, Run Date: 10/10/2022 21:05, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | % Rec | LCL  | UCL   |
|--------------|-------|-------|------|-------|
| Phenanthrene |       | 69.2  | 36.4 | 143.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221010B.LCSDW10A, Parent Sample ID: H221010B.LCSW10A

Run in Batch: H221010B, Run Date: 10/10/2022 21:22, Prep Date: 10/10/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------|-------|-------|------|-------|-----|--------|
| Phenanthrene |       | 71.2  | 36.4 | 143.0 | 3.0 | 30.0   |



# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221006W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 221006B7.BLKW06B

Run in Batch: 221006B7, Run Date: 10/07/2022 02:04, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | Conc | RDL   | Units |
|---------------------------------------|-------|------|-------|-------|
| Acetone                               |       | ND   | 10.00 | ug/l  |
| 2-Butanone (MEK)                      |       | ND   | 10.00 | ug/l  |
| Benzene                               |       | ND   | 1.00  | ug/l  |
| Bromodichloromethane                  |       | ND   | 1.00  | ug/l  |
| Bromoform                             |       | ND   | 1.00  | ug/l  |
| Bromomethane                          |       | ND   | 1.00  | ug/l  |
| Carbon disulfide                      |       | ND   | 1.00  | ug/l  |
| Carbon tetrachloride                  |       | ND   | 1.00  | ug/l  |
| Chlorobenzene                         |       | ND   | 1.00  | ug/l  |
| Chloroethane                          |       | ND   | 1.00  | ug/l  |
| Chloroform                            |       | ND   | 1.00  | ug/l  |
| Chloromethane                         |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromo-3-chloropropane           |       | ND   | 1.00  | ug/l  |
| 1,2-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,2-Dichloropropane                   |       | ND   | 1.00  | ug/l  |
| 1,3-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| 1,4-Dichlorobenzene                   |       | ND   | 1.00  | ug/l  |
| cis-1,2-Dichloroethene                |       | ND   | 1.00  | ug/l  |
| Dibromochloromethane                  |       | ND   | 1.00  | ug/l  |
| Dichlorodifluoromethane               |       | ND   | 1.00  | ug/l  |
| trans-1,2-Dichloroethene              |       | ND   | 1.00  | ug/l  |
| Ethylbenzene                          |       | ND   | 1.00  | ug/l  |
| 2-Hexanone                            |       | ND   | 10.00 | ug/l  |
| 4-Methyl-2-pentanone (MIBK)           |       | ND   | 10.00 | ug/l  |
| tert-Methyl butyl ether (MTBE)        |       | ND   | 1.00  | ug/l  |
| Methylene chloride                    |       | ND   | 1.00  | ug/l  |
| Styrene                               |       | ND   | 1.00  | ug/l  |
| 1,1,1-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloroethane                 |       | ND   | 1.00  | ug/l  |
| 1,2,4-Trichlorobenzene                |       | ND   | 1.00  | ug/l  |
| Tetrachloroethene                     |       | ND   | 1.00  | ug/l  |
| Toluene                               |       | ND   | 1.00  | ug/l  |
| Trichloroethene                       |       | ND   | 1.00  | ug/l  |
| Trichlorofluoromethane                |       | ND   | 1.00  | ug/l  |
| Vinyl chloride                        |       | ND   | 1.00  | ug/l  |
| o-Xylene                              |       | ND   | 1.00  | ug/l  |
| p,m-Xylene                            |       | ND   | 1.00  | ug/l  |
| Isopropylbenzene                      |       | ND   | 1.00  | ug/l  |
| Cyclohexane                           |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethane                    |       | ND   | 1.00  | ug/l  |
| 1,1-Dichloroethene                    |       | ND   | 1.00  | ug/l  |
| Methyl Acetate                        |       | ND   | 1.00  | ug/l  |
| Methyl cyclohexane                    |       | ND   | 1.00  | ug/l  |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | ND   | 1.00  | ug/l  |
| 1,2-Dibromoethane                     |       | ND   | 1.00  | ug/l  |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221006W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Blank (BLK) (continued)

Lab Sample ID: 221006B7.BLKW06B

Run in Batch: 221006B7, Run Date: 10/07/2022 02:04, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                   | Flags | Conc | RDL  | Units |
|---------------------------|-------|------|------|-------|
| 1,1,2,2-Tetrachloroethane |       | ND   | 1.00 | ug/l  |
| cis-1,3-Dichloropropene   |       | ND   | 1.00 | ug/l  |
| trans-1,3-Dichloropropene |       | ND   | 1.00 | ug/l  |

## Laboratory Control Sample (LCS)

Lab Sample ID: 221006B7.LCSW06B

Run in Batch: 221006B7, Run Date: 10/07/2022 00:31, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   |
|--------------------------------|-------|-------|------|-------|
| Acetone                        |       | 83.8  | 29.9 | 161.5 |
| 2-Butanone (MEK)               |       | 84.1  | 44.0 | 134.4 |
| Benzene                        |       | 103.9 | 79.9 | 124.9 |
| Bromodichloromethane           |       | 99.2  | 80.4 | 128.2 |
| Bromoform                      |       | 93.1  | 69.4 | 128.0 |
| Bromomethane                   |       | 102.0 | 56.8 | 151.3 |
| Carbon disulfide               |       | 88.5  | 63.8 | 137.4 |
| Carbon tetrachloride           |       | 85.1  | 72.6 | 133.0 |
| Chlorobenzene                  |       | 110.0 | 79.2 | 122.7 |
| Chloroethane                   |       | 96.9  | 53.4 | 149.4 |
| Chloroform                     |       | 100.2 | 78.4 | 124.0 |
| Chloromethane                  |       | 96.0  | 23.8 | 166.5 |
| 1,2-Dibromo-3-chloropropane    |       | 93.1  | 21.2 | 189.4 |
| 1,2-Dichlorobenzene            |       | 107.9 | 10.0 | 166.2 |
| 1,2-Dichloroethane             |       | 92.5  | 76.0 | 126.3 |
| 1,2-Dichloropropane            |       | 103.0 | 78.6 | 126.4 |
| 1,3-Dichlorobenzene            |       | 105.6 | 77.0 | 131.3 |
| 1,4-Dichlorobenzene            |       | 105.9 | 20.7 | 137.7 |
| cis-1,2-Dichloroethene         |       | 103.9 | 76.6 | 122.1 |
| Dibromochloromethane           |       | 100.5 | 74.6 | 127.2 |
| Dichlorodifluoromethane        |       | 90.6  | 10.0 | 222.8 |
| trans-1,2-Dichloroethene       |       | 94.4  | 73.6 | 129.3 |
| Ethylbenzene                   |       | 104.9 | 79.5 | 129.1 |
| 2-Hexanone                     |       | 89.8  | 55.4 | 136.9 |
| 4-Methyl-2-pentanone (MIBK)    |       | 91.4  | 71.6 | 125.2 |
| tert-Methyl butyl ether (MTBE) |       | 100.9 | 73.2 | 122.4 |
| Methylene chloride             |       | 102.7 | 73.3 | 121.1 |
| Styrene                        |       | 107.2 | 69.5 | 126.7 |
| 1,1,1-Trichloroethane          |       | 88.7  | 79.4 | 130.9 |
| 1,1,2-Trichloroethane          |       | 105.3 | 78.7 | 123.1 |
| 1,2,4-Trichlorobenzene         |       | 116.6 | 27.4 | 143.4 |
| Tetrachloroethene              |       | 104.2 | 74.5 | 124.5 |
| Toluene                        |       | 103.0 | 79.8 | 124.5 |
| Trichloroethene                |       | 101.1 | 79.7 | 124.2 |
| Trichlorofluoromethane         |       | 88.6  | 59.7 | 151.8 |
| Vinyl chloride                 |       | 100.6 | 43.5 | 149.1 |
| o-Xylene                       |       | 105.4 | 80.2 | 131.0 |
| p,m-Xylene                     |       | 105.0 | 79.4 | 132.2 |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221006W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 221006B7.LCSW06B

Run in Batch: 221006B7, Run Date: 10/07/2022 00:31, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   |
|---------------------------------------|-------|-------|------|-------|
| Isopropylbenzene                      |       | 105.7 | 74.4 | 121.5 |
| Cyclohexane                           |       | 84.2  | 10.0 | 169.1 |
| 1,1-Dichloroethane                    |       | 97.4  | 71.5 | 126.2 |
| 1,1-Dichloroethene                    |       | 89.6  | 69.6 | 139.4 |
| Methyl Acetate                        |       | 89.8  | 64.7 | 125.4 |
| Methyl cyclohexane                    |       | 96.5  | 76.6 | 131.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 95.5  | 75.1 | 135.9 |
| 1,2-Dibromoethane                     |       | 104.7 | 70.3 | 133.7 |
| 1,1,2,2-Tetrachloroethane             |       | 100.8 | 79.8 | 126.3 |
| cis-1,3-Dichloropropene               |       | 102.7 | 79.8 | 129.9 |
| trans-1,3-Dichloropropene             |       | 97.8  | 74.0 | 131.3 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221006B7.LCSDW06B, Parent Sample ID: 221006B7.LCSW06B

Run in Batch: 221006B7, Run Date: 10/07/2022 00:54, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                        | Flags | % Rec | LCL  | UCL   | RPD  | RPD CL |
|--------------------------------|-------|-------|------|-------|------|--------|
| Acetone                        |       | 77.6  | 29.9 | 161.5 | 7.6  | 30.0   |
| 2-Butanone (MEK)               |       | 78.0  | 44.0 | 134.4 | 7.5  | 30.0   |
| Benzene                        |       | 97.0  | 79.9 | 124.9 | 6.8  | 30.0   |
| Bromodichloromethane           |       | 92.1  | 80.4 | 128.2 | 7.5  | 30.0   |
| Bromoform                      |       | 86.2  | 69.4 | 128.0 | 7.7  | 30.0   |
| Bromomethane                   |       | 95.4  | 56.8 | 151.3 | 6.6  | 30.0   |
| Carbon disulfide               |       | 84.6  | 63.8 | 137.4 | 4.5  | 30.0   |
| Carbon tetrachloride           |       | 79.1  | 72.6 | 133.0 | 7.3  | 30.0   |
| Chlorobenzene                  |       | 102.0 | 79.2 | 122.7 | 7.6  | 30.0   |
| Chloroethane                   |       | 90.9  | 53.4 | 149.4 | 6.3  | 30.0   |
| Chloroform                     |       | 93.9  | 78.4 | 124.0 | 6.5  | 30.0   |
| Chloromethane                  |       | 91.5  | 23.8 | 166.5 | 4.8  | 30.0   |
| 1,2-Dibromo-3-chloropropane    |       | 83.0  | 21.2 | 189.4 | 11.5 | 30.0   |
| 1,2-Dichlorobenzene            |       | 98.3  | 10.0 | 166.2 | 9.3  | 30.0   |
| 1,2-Dichloroethane             |       | 86.3  | 76.0 | 126.3 | 6.9  | 30.0   |
| 1,2-Dichloropropane            |       | 96.2  | 78.6 | 126.4 | 6.8  | 30.0   |
| 1,3-Dichlorobenzene            |       | 96.2  | 77.0 | 131.3 | 9.3  | 30.0   |
| 1,4-Dichlorobenzene            |       | 96.5  | 20.7 | 137.7 | 9.3  | 30.0   |
| cis-1,2-Dichloroethene         |       | 96.6  | 76.6 | 122.1 | 7.3  | 30.0   |
| Dibromochloromethane           |       | 93.3  | 74.6 | 127.2 | 7.4  | 30.0   |
| Dichlorodifluoromethane        |       | 84.8  | 10.0 | 222.8 | 6.6  | 30.0   |
| trans-1,2-Dichloroethene       |       | 89.8  | 73.6 | 129.3 | 5.0  | 30.0   |
| Ethylbenzene                   |       | 97.1  | 79.5 | 129.1 | 7.7  | 30.0   |
| 2-Hexanone                     |       | 81.2  | 55.4 | 136.9 | 10.0 | 30.0   |
| 4-Methyl-2-pentanone (MIBK)    |       | 82.7  | 71.6 | 125.2 | 10.0 | 30.0   |
| tert-Methyl butyl ether (MTBE) |       | 94.0  | 73.2 | 122.4 | 7.1  | 30.0   |
| Methylene chloride             |       | 97.8  | 73.3 | 121.1 | 4.9  | 30.0   |
| Styrene                        |       | 99.0  | 69.5 | 126.7 | 8.0  | 30.0   |
| 1,1,1-Trichloroethane          |       | 83.7  | 79.4 | 130.9 | 5.8  | 30.0   |
| 1,1,2-Trichloroethane          |       | 98.7  | 78.7 | 123.1 | 6.5  | 30.0   |

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF221006W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 221006B7.LCSDW06B, Parent Sample ID: 221006B7.LCSW06B

Run in Batch: 221006B7, Run Date: 10/07/2022 00:54, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte                               | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------------------------------|-------|-------|------|-------|-----|--------|
| 1,2,4-Trichlorobenzene                |       | 106.4 | 27.4 | 143.4 | 9.2 | 30.0   |
| Tetrachloroethene                     |       | 97.8  | 74.5 | 124.5 | 6.3 | 30.0   |
| Toluene                               |       | 96.9  | 79.8 | 124.5 | 6.1 | 30.0   |
| Trichloroethene                       |       | 94.0  | 79.7 | 124.2 | 7.2 | 30.0   |
| Trichlorofluoromethane                |       | 83.1  | 59.7 | 151.8 | 6.3 | 30.0   |
| Vinyl chloride                        |       | 93.6  | 43.5 | 149.1 | 7.2 | 30.0   |
| o-Xylene                              |       | 96.7  | 80.2 | 131.0 | 8.5 | 30.0   |
| p,m-Xylene                            |       | 97.3  | 79.4 | 132.2 | 7.6 | 30.0   |
| Isopropylbenzene                      |       | 97.5  | 74.4 | 121.5 | 8.1 | 30.0   |
| Cyclohexane                           |       | 78.8  | 10.0 | 169.1 | 6.7 | 30.0   |
| 1,1-Dichloroethane                    |       | 91.6  | 71.5 | 126.2 | 6.2 | 30.0   |
| 1,1-Dichloroethene                    |       | 84.8  | 69.6 | 139.4 | 5.4 | 30.0   |
| Methyl Acetate                        |       | 83.9  | 64.7 | 125.4 | 6.8 | 30.0   |
| Methyl cyclohexane                    |       | 89.1  | 76.6 | 131.3 | 8.0 | 30.0   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane |       | 88.1  | 75.1 | 135.9 | 8.0 | 30.0   |
| 1,2-Dibromoethane                     |       | 98.5  | 70.3 | 133.7 | 6.1 | 30.0   |
| 1,1,2,2-Tetrachloroethane             |       | 93.2  | 79.8 | 126.3 | 7.9 | 30.0   |
| cis-1,3-Dichloropropene               |       | 96.5  | 79.8 | 129.9 | 6.2 | 30.0   |
| trans-1,3-Dichloropropene             |       | 92.6  | 74.0 | 131.3 | 5.5 | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | Conc | RDL  | Units |
|-------------|-------|------|------|-------|
| 1,4-Dioxane | *     | 0.33 | 0.02 | ug/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   |
|-------------|-------|-------|------|-------|
| 1,4-Dioxane |       | 90.5  | 70.0 | 130.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-------------|-------|-------|------|-------|-----|--------|
| 1,4-Dioxane |       | 90.2  | 70.0 | 130.0 | 0.4 | 30.0   |

## REPORT TO

|                                                        |          |                     |          |
|--------------------------------------------------------|----------|---------------------|----------|
| CONTACT NAME                                           |          | Alexis Crisp        |          |
| COMPANY                                                |          | Arcadis             |          |
| ADDRESS                                                |          | 28550 Cabot Dr #500 |          |
| CITY                                                   |          | STATE               | ZIP CODE |
| Novi                                                   |          | MI                  | 48317    |
| PHONE NO.                                              | CELL NO. | P.O. NO.            |          |
|                                                        |          | 30112891.00006      |          |
| E-MAIL ADDRESS                                         |          | QUOTE NO.           |          |
| tiffany.linder@arcadis.com<br>Alexis.crisp@arcadis.com |          |                     |          |

## CHAIN OF CUSTODY RECORD

|                                  |  |                                                               |                   |
|----------------------------------|--|---------------------------------------------------------------|-------------------|
| CONTACT NAME<br>Accounts Payable |  | <input type="checkbox"/> SAME                                 |                   |
| COMPANY<br>Arcadis               |  |                                                               |                   |
| ADDRESS<br>630 Plaza Dr #1200    |  |                                                               |                   |
| CITY<br>Highlands Ranch          |  | STATE<br>CO                                                   | ZIP CODE<br>80129 |
| PHONE NO.                        |  | E-MAIL ADDRESS<br>accounts.payable.administration@arcadis.com |                   |

**INVOICE TO**

|                                                                                                                                                                                                                                                   |                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| PROJECT NO./NAME <u>30112891.00006 / Racer PNC</u>                                                                                                                                                                                                | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br><u>Sommer Guy / Sommer Guy</u> |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____                                         |                                                                       |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> 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]

|                        |                               |         |       |
|------------------------|-------------------------------|---------|-------|
| RELINQUISHED BY:       | Doranne Day Arcades & Sampler | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                               | 10/4/22 | 13:20 |
| RECEIVED BY:           | J. M. Miller                  | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                               | 10/4/22 | 13:20 |
| RELINQUISHED BY:       | J. M. Miller                  | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                               | 10/4/22 | 10:20 |
| RECEIVED BY:           | M. (illegible)                | DATE    | TIME  |
| SIGNATURE/ORGANIZATION |                               | 10/4/22 | 16:00 |

|                        |                                                                         |          |        |                  |
|------------------------|-------------------------------------------------------------------------|----------|--------|------------------|
| RELINQUISHED BY:       |                                                                         |          | DATE   | TIME             |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                  |
| RECEIVED BY:           |                                                                         |          | DATE   | TIME             |
| SIGNATURE/ORGANIZATION |                                                                         |          |        |                  |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: | TEMP. ON ARRIVAL |
| SEAL NO.               | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | 2.4    |                  |

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

Rev. 1.26.22



# Analytical Laboratory Report

Report ID: S41031.01(01)  
Generated on 10/10/2022

## 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, Ian Drost

## Report produced by

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

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

## Report Summary

Lab Sample ID(s): S41031.01  
Project: 30112891.00006 / Racer PNC  
Collected Date(s): 10/04/2022  
Submitted Date/Time: 10/04/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

Full accreditation certificates are available upon request. Starred (\*) analytes are not 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.

## Report Narrative

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There is no additional narrative for this analytical report



## Laboratory Certifications

| Authority           | Certification ID |
|---------------------|------------------|
| Michigan DEQ        | #9956            |
| DOD ELAP/ISO 17025  | #69699           |
| WBENC               | #2005110032      |
| Ohio VAP            | #CL0002          |
| Indiana DOH         | #C-MI-07         |
| New York NELAC      | #11814           |
| North Carolina DENR | #680             |
| North Carolina DOH  | #26702           |
| Alaska CSLAP        | #17-001          |
| 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                         |
| p         | Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak. |
| 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                                           |
|---------------|---------------------------------------------------|
| E200.8        | EPA Method 200.8 Revision 5.4                     |
| E245.1        | EPA Method 245.1 Revision 3.0                     |
| E608.3        | EPA Method 608.3 December 2016                    |
| N/A           | Not Applicable                                    |
| SW3015A       | SW 846 Method 3015A Revision 1 February 2007      |
| SW3510C       | SW 846 Method 3510C Revision 3 December 1996      |
| SW8260B - SIM | SW 846 Method 8260B Revision 2 December 1996 SIMs |
| SW8270D       | SW 846 Method 8270D Revision 4 February 2007      |



# Analytical Laboratory Report

**Sample Summary (1 samples)**

| Sample ID | Sample Tag        | Matrix      | Collected Date/Time |
|-----------|-------------------|-------------|---------------------|
| S41031.01 | MWOS-07_GW-100422 | Groundwater | 10/04/22 10:20      |



# Analytical Laboratory Report

Lab Sample ID: S41031.01

Sample Tag: MWOS-07\_GW-100422

Collected Date/Time: 10/04/2022 10:20

Matrix: Groundwater

COC Reference: 138069

## Sample Containers

| # | Type          | Preservative(s) | Refrigerated? | Arrival Temp. (C) | Thermometer # |
|---|---------------|-----------------|---------------|-------------------|---------------|
| 3 | 40ml Glass    | HCL             | Yes           | 2.4               | IR            |
| 1 | 125ml Plastic | HNO3            | Yes           | 2.4               | IR            |
| 3 | 1L Amber      | None            | Yes           | 2.4               | IR            |

## Extraction / Prep.

| Parameter          | Result    | Method  | Run Date       | Analyst | Flags |
|--------------------|-----------|---------|----------------|---------|-------|
| Mercury Digestion  | Completed | E245.1  | 10/06/22 13:27 | CTV     |       |
| pH check for VOCs* | <2        | N/A     | 10/10/22 12:30 | BML     |       |
| Metal Digestion    | Completed | SW3015A | 10/05/22 10:00 | CCM     |       |
| Extraction, PCB*   | Completed | E608.3  | 10/07/22 10:00 | JWR     |       |
| PNA Extraction     | Completed | SW3510C | 10/06/22 11:00 | JWR     |       |

## Metals

Method: E200.8, Run Date: 10/05/22 15:04, Analyst: CCM

| Parameter | Result | RL    | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------|-------|-----|-------|----------|-----------|-------|
| Arsenic   | 0.004  | 0.002 |     | mg/L  | 5        | 7440-38-2 |       |

Method: E200.8, Run Date: 10/05/22 12:31, Analyst: CCM

| Parameter | Result       | RL     | MDL | Units | Dilution | CAS#      | Flags |
|-----------|--------------|--------|-----|-------|----------|-----------|-------|
| Antimony* | Not detected | 0.005  |     | mg/L  | 5        | 7440-36-0 |       |
| Barium    | 0.098        | 0.005  |     | mg/L  | 5        | 7440-39-3 |       |
| Beryllium | Not detected | 0.001  |     | mg/L  | 5        | 7440-41-7 |       |
| Cadmium   | Not detected | 0.0005 |     | mg/L  | 5        | 7440-43-9 |       |
| Chromium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-47-3 |       |
| Cobalt    | Not detected | 0.005  |     | mg/L  | 5        | 7440-48-4 |       |
| Copper    | Not detected | 0.005  |     | mg/L  | 5        | 7440-50-8 |       |
| Lead      | Not detected | 0.003  |     | mg/L  | 5        | 7439-92-1 |       |
| Manganese | 1.93         | 0.005  |     | mg/L  | 5        | 7439-96-5 |       |
| Nickel    | Not detected | 0.005  |     | mg/L  | 5        | 7440-02-0 |       |
| Selenium  | Not detected | 0.005  |     | mg/L  | 5        | 7782-49-2 |       |
| Silver    | Not detected | 0.0005 |     | mg/L  | 5        | 7440-22-4 |       |
| Thallium  | Not detected | 0.002  |     | mg/L  | 5        | 7440-28-0 |       |
| Vanadium  | Not detected | 0.005  |     | mg/L  | 5        | 7440-62-2 |       |
| Zinc      | Not detected | 0.005  |     | mg/L  | 5        | 7440-66-6 |       |

Method: E245.1, Run Date: 10/06/22 16:20, Analyst: CTV

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

## Organics - PCBs/Pesticides

PCB, Method: E608.3, Run Date: 10/10/22 12:24, Analyst: JANB

| Parameter | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-----------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1016  | Not detected | 0.1 |     | ug/L  | 1        | 12674-11-2 |       |
| PCB-1221  | Not detected | 0.1 |     | ug/L  | 1        | 11104-28-2 |       |
| PCB-1232  | Not detected | 0.1 |     | ug/L  | 1        | 11141-16-5 |       |
| PCB-1242  | Not detected | 0.1 |     | ug/L  | 1        | 53469-21-9 |       |



# Analytical Laboratory Report

Lab Sample ID: S41031.01 (continued)

Sample Tag: MWOS-07\_GW-100422

**PCB, Method: E608.3, Run Date: 10/10/22 12:24, Analyst: JANB (continued)**

| Parameter   | Result       | RL  | MDL | Units | Dilution | CAS#       | Flags |
|-------------|--------------|-----|-----|-------|----------|------------|-------|
| PCB-1248    | Not detected | 0.1 |     | ug/L  | 1        | 12672-29-6 |       |
| PCB-1254    | Not detected | 0.1 |     | ug/L  | 1        | 11097-69-1 |       |
| PCB-1260    | Not detected | 0.1 |     | ug/L  | 1        | 11096-82-5 |       |
| PCB, Total* | Not detected | 0.1 |     | ug/L  | 1        | 1336-36-3  |       |

**Organics - Semi-Volatiles**

**Method: SW8270D, Run Date: 10/07/22 20:06, Analyst: PL**

| Parameter    | Result       | RL | MDL | Units | Dilution | CAS#    | Flags |
|--------------|--------------|----|-----|-------|----------|---------|-------|
| Phenanthrene | Not detected | 2  |     | ug/L  | 2        | 85-01-8 |       |

**Organics - Volatiles**

**Method: SW8260B - SIM, Run Date: 10/08/22 02:19, Analyst: KAG**

| Parameter    | Result       | RL | MDL | Units | Dilution | CAS#     | Flags |
|--------------|--------------|----|-----|-------|----------|----------|-------|
| 1,4-Dioxane* | Not detected | 1  |     | ug/L  | 1        | 123-91-1 |       |

# Merit Laboratories Login Checklist

Lab Set ID:S41031

Client:ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Submitted: 10/04/2022 16:00 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                                                   |
|--------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Sample Receiving</b>  |                                                                                                  |                                                        |
| 01.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 2.4 |
| 02.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped                                        |
| 04.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05.                      | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |
| <b>Chain of Custody</b>  |                                                                                                  |                                                        |
| 06.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                              |
| 07.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab                 |
| 08.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC                        |
| 09.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontacted to:                |
| <b>Preservation</b>      |                                                                                                  |                                                        |
| 10.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation           |
| 11.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs)    |
| 12.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?       |
| <b>Bottle Conditions</b> |                                                                                                  |                                                        |
| 13.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                                     |
| 14.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used                |
| 15.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                                     |
| 16.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received                      |
| 17.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration                  |
| 18.                      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time                  |
| 19.                      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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: \_\_\_\_\_

## Merit Laboratories Bottle Preservation Check

Lab Set ID: S41031      Submitted: 10/04/2022 16:00

Client: ARCADIS\_NOVI (ARCADIS U.S., Inc.)

Project: 30112891.00006 / Racer PNC

Initial Preservation Check: 10/04/2022 16:18 MMC

Preservation Recheck (E200.8): N/A

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

| Sample ID | Bottle / Preservation | pH (Orig) | Add ml | pH (New) | Notes |
|-----------|-----------------------|-----------|--------|----------|-------|
| S41031.01 | 125ml Plastic HNO3    | <2        |        |          |       |

## REPORT TO

## CHAIN OF CUSTODY RECORD

**INVOICE TO**

|                                                        |  |  |         |                     |                |          |  |
|--------------------------------------------------------|--|--|---------|---------------------|----------------|----------|--|
| CONTACT NAME                                           |  |  |         | Alexis Crisp        |                |          |  |
| COMPANY                                                |  |  |         | 28550 Cabot Dr #500 |                |          |  |
| ADDRESS                                                |  |  |         | Arcadis             |                |          |  |
| CITY                                                   |  |  |         | STATE               |                | ZIP CODE |  |
| Novi                                                   |  |  |         | MI                  |                | 48311    |  |
| PHONE NO.                                              |  |  | FAX NO. |                     | P.O. NO.       |          |  |
|                                                        |  |  |         |                     | 30112891.00006 |          |  |
| E-MAIL ADDRESS                                         |  |  |         | QUOTE NO.           |                |          |  |
| tiffany.linder@arcadis.com<br>Alexis.Crisp@arcadis.com |  |  |         |                     |                |          |  |

|              |  |                               |          |
|--------------|--|-------------------------------|----------|
| CONTACT NAME |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  |                               |          |
| ADDRESS      |  |                               |          |
| CITY         |  | STATE                         | ZIP CODE |
| PHONE NO.    |  | E-MAIL ADDRESS                |          |

## ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

|                                                                                                                                                                                                                                             |                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| PROJECT NO./NAME<br>30112891.00006 / Racer PNC                                                                                                                                                                                              | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br>Sommer Guy / Sommer Guy |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER                                         |                                                                |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER |                                                                |

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

### # Containers & Preservatives

[illegible]

|                                            |                           |                                             |                  |               |
|--------------------------------------------|---------------------------|---------------------------------------------|------------------|---------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>Dommer Gay Arcades</i> | <input checked="" type="checkbox"/> Sampler | DATE<br>10/14/22 | TIME<br>17:00 |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>J. Smith</i>           |                                             | DATE<br>10/14/22 | TIME<br>13:00 |
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>J. Smith</i>           |                                             | DATE<br>10/14/22 | TIME<br>16:00 |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>M. Wilcox</i>          |                                             | DATE<br>10/14/22 | TIME<br>16:00 |

|                                            |                                                                         |          |                                    |      |
|--------------------------------------------|-------------------------------------------------------------------------|----------|------------------------------------|------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE                               | TIME |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE                               | TIME |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: TEMP. ON ARRIVAL <u>2.4</u> |      |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |                                    |      |

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





# Quality Control Report

Report ID: QC-S41031-01  
Generated on 10/11/2022

## Report to

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

Phone: 810-225-1909 FAX:

## Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Report Summary

Lab Sample ID(s): S41031.01  
Project: 30112891.00006 / Racer PNC  
Submitted Date/Time: 10/04/2022 16:00  
Sampled by: Sommer Guy  
P.O. #: 30112891.00006

## QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Page 2)  
Prep Batch Summary (Page 3)  
Surrogates per Lab Sample (Page 4)  
Surrogates per QC Sample (Pages 5-7)  
Batch QC Results (Pages 8-15)

## Report Flag Descriptions

\*: QC result is outside of indicated control limits  
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

# QC Report - Analysis Summary

**Lab Sample ID: S41031.01**

Sample Tag: MWOS-07\_GW-100422

Collected Date/Time: 10/04/2022 10:20

Matrix: Groundwater

COC Reference: 138069

| Analysis                          | Method        | Run Date/Time  | Batch ID     | Prep ID      | Surr | QC Types       |
|-----------------------------------|---------------|----------------|--------------|--------------|------|----------------|
| <b>Metals</b>                     |               |                |              |              |      |                |
| Antimony                          | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Arsenic                           | E200.8        | 10/05/22 15:04 | MT4-22-1005B | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Barium                            | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Beryllium                         | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cadmium                           | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Chromium                          | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Cobalt                            | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Copper                            | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Lead                              | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Manganese                         | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Mercury                           | E245.1        | 10/06/22 16:20 | HG-22-1006A  | HGD-100622-2 | No   | BLK/LCS/MS/MSD |
| Nickel                            | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Selenium                          | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Silver                            | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Thallium                          | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Vanadium                          | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| Zinc                              | E200.8        | 10/05/22 12:31 | MT4-22-1005A | MTD-100522-2 | No   | BLK/LCS/MS/MSD |
| <b>Organics - PCBs/Pesticides</b> |               |                |              |              |      |                |
| PCB                               | E608.3        | 10/10/22 12:24 | E221010      | PA221007W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Semi-Volatiles</b>  |               |                |              |              |      |                |
| Phenanthrene                      | SW8270D       | 10/07/22 20:06 | H221007      | SP221006W1   | Yes  | BLK/LCS/LCSD   |
| <b>Organics - Volatiles</b>       |               |                |              |              |      |                |
| 1,4-Dioxane                       | SW8260B - SIM | 10/08/22 02:19 | 221007B9     | VS221007W1   | Yes  | BLK/LCS/LCSD   |

# QC Report - Prep Batch Summary

## Metals, Prep Batch ID: HGD-100622-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID    |
|-----------|----------|--------|----------------|-------------|
| S41031.01 | Mercury  | E245.1 | 10/06/22 16:20 | HG-22-1006A |

## Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

| Sample ID | Analysis  | Method | Run Date/Time  | Batch ID     |
|-----------|-----------|--------|----------------|--------------|
| S41031.01 | Antimony  | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Arsenic   | E200.8 | 10/05/22 15:04 | MT4-22-1005B |
| S41031.01 | Barium    | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Beryllium | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Cadmium   | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Chromium  | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Cobalt    | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Copper    | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Lead      | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Manganese | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Nickel    | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Selenium  | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Silver    | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Thallium  | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Vanadium  | E200.8 | 10/05/22 12:31 | MT4-22-1005A |
| S41031.01 | Zinc      | E200.8 | 10/05/22 12:31 | MT4-22-1005A |

## Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis | Method | Run Date/Time  | Batch ID |
|-----------|----------|--------|----------------|----------|
| S41031.01 | PCB      | E608.3 | 10/10/22 12:24 | E221010  |

## Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis     | Method  | Run Date/Time  | Batch ID |
|-----------|--------------|---------|----------------|----------|
| S41031.01 | Phenanthrene | SW8270D | 10/07/22 20:06 | H221007  |

## Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

| Sample ID | Analysis    | Method        | Run Date/Time  | Batch ID |
|-----------|-------------|---------------|----------------|----------|
| S41031.01 | 1,4-Dioxane | SW8260B - SIM | 10/08/22 02:19 | 221007B9 |

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S41031.01

Sample Tag: MWOS-07\_GW-100422

Collected Date/Time: 10/04/2022 10:20

Matrix: Groundwater

COC Reference: 138069

### Organics - PCBs/Pesticides, Analysis: PCB

Run in Batch: E221010, Run Date: 10/10/2022 12:24, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 78.30 | 34.1 | 137.1 |
| DCBP      |       | 81.30 | 30.0 | 138.6 |

### Organics - Semi-Volatiles, Analysis: Phenanthrene

Run in Batch: H221007, Run Date: 10/07/2022 20:06, Matrix: WW, Dilution: 2

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 80.7 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 80.0 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 97.1 | 10.0 | 141.0 |

# QC Report - Surrogates per QC Sample

## Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: a22100706.sblk-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:28, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 68.30 | 34.1 | 137.1 |
| DCBP      |       | 83.30 | 30.0 | 138.6 |

### Blank (BLK)

Lab Sample ID: b22101004.sblk-w.01

Run in Batch: B221010, Run Date: 10/10/2022 11:09, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 84.30 | 34.1 | 137.1 |
| DCBP      |       | 78.20 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:40, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 87.20 | 34.1 | 137.1 |
| DCBP      |       | 88.00 | 30.0 | 138.6 |

### Laboratory Control Sample (LCS)

Lab Sample ID: b22101005.slcs-w.01

Run in Batch: B221010, Run Date: 10/10/2022 11:55, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 81.10 | 34.1 | 137.1 |
| DCBP      |       | 80.50 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100708.slcs-w.01d, Parent Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:51, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 85.20 | 34.1 | 137.1 |
| DCBP      |       | 86.40 | 30.0 | 138.6 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: b22101006.slcs-w.01d, Parent Sample ID: b22101005.slcs-w.01

Run in Batch: B221010, Run Date: 10/10/2022 12:16, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate | Flags | %Rec  | LCL  | UCL   |
|-----------|-------|-------|------|-------|
| TCX       |       | 79.90 | 34.1 | 137.1 |
| DCBP      |       | 79.70 | 30.0 | 138.6 |

# QC Report - Surrogates per QC Sample

## Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: H221006.BLKW06B

Run in Batch: H221006, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 57.0 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 52.1 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 52.5 | 10.0 | 141.0 |

### Blank (BLK)

Lab Sample ID: H221006B.BLKW06B

Run in Batch: H221006B, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 54.2 | 10.0 | 116.0 |

### Laboratory Control Sample (LCS)

Lab Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 67.9 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 64.3 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 85.9 | 10.0 | 141.0 |

### Laboratory Control Sample (LCS)

Lab Sample ID: H221006B.LCSW06A

Run in Batch: H221006B, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 67.0 | 10.0 | 116.0 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006.LCSDW06A, Parent Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| Nitrobenzene-D5  |       | 69.2 | 10.0 | 114.0 |
| 2-Fluorobiphenyl |       | 63.7 | 10.0 | 116.0 |
| Terphenyl-D14    |       | 83.5 | 10.0 | 141.0 |

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006B.LCSDW06A, Parent Sample ID: H221006B.LCSW06A

Run in Batch: H221006B, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Surrogate        | Flags | %Rec | LCL  | UCL   |
|------------------|-------|------|------|-------|
| 2-Fluorobiphenyl |       | 66.4 | 10.0 | 116.0 |

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VS221007W1

QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Surrogate     | Flags | %Rec | LCL | UCL |
|---------------|-------|------|-----|-----|
| No Surrogates |       |      |     |     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: HGD-100622-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

#### Blank (BLK)

Lab Sample ID: HG-22-1006A.045.LRB

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:30, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL  | Units |
|---------|-------|------|------|-------|
| Mercury |       | ND   | 0.20 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: HG-22-1006A.044.LCS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:27, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 101   | 85  | 115 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1006A.049.MS, Parent Sample ID: S40939.01

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:44, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 2

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 106   | 80  | 120 |

#### Matrix Spike (MS)

Lab Sample ID: HG-22-1006A.070.MS, Parent Sample ID: S41063.02

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 16:53, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Mercury |       | 118   | 80  | 120 |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1006A.050.MSD, Parent Sample ID: HG-22-1006A.049.MS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 15:47, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 2

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 107   | 80  | 120 | 2   | 20     |

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: HG-22-1006A.071.MSD, Parent Sample ID: HG-22-1006A.070.MS

Run in Batch: HG-22-1006A, Run Date: 10/06/2022 16:56, Prep Date: 10/06/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Mercury |       | 107   | 80  | 120 | 9   | 20     |



# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-100522-2

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Blank (BLK)

Lab Sample ID: MT4-22-1005A.021.LRB

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:36, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | Conc | RDL    | Units |
|-----------|-------|------|--------|-------|
| Antimony  |       | ND   | 0.001  | mg/L  |
| Barium    |       | ND   | 0.001  | mg/L  |
| Beryllium |       | ND   | 0.0002 | mg/L  |
| Cadmium   |       | ND   | 0.0001 | mg/L  |
| Chromium  |       | ND   | 0.001  | mg/L  |
| Cobalt    |       | ND   | 0.001  | mg/L  |
| Copper    |       | ND   | 0.001  | mg/L  |
| Lead      |       | ND   | 0.0006 | mg/L  |
| Manganese |       | ND   | 0.001  | mg/L  |
| Nickel    |       | ND   | 0.001  | mg/L  |
| Selenium  |       | ND   | 0.001  | mg/L  |
| Silver    |       | ND   | 0.0001 | mg/L  |
| Thallium  |       | ND   | 0.0004 | mg/L  |
| Vanadium  |       | ND   | 0.001  | mg/L  |
| Zinc      |       | ND   | 0.001  | mg/L  |

### Blank (BLK)

Lab Sample ID: MT4-22-1005B.017.LRB

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:50, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | Conc | RDL    | Units |
|---------|-------|------|--------|-------|
| Arsenic |       | ND   | 0.0004 | mg/L  |

### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005A.019.LCS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 11:33, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 85  | 115 |
| Barium    |       | 99    | 85  | 115 |
| Beryllium |       | 98    | 85  | 115 |
| Cadmium   |       | 100   | 85  | 115 |
| Chromium  |       | 98    | 85  | 115 |
| Cobalt    |       | 99    | 85  | 115 |
| Copper    |       | 100   | 85  | 115 |
| Lead      |       | 102   | 85  | 115 |
| Manganese |       | 98    | 85  | 115 |
| Nickel    |       | 99    | 85  | 115 |
| Selenium  |       | 101   | 85  | 115 |
| Silver    |       | 99    | 85  | 115 |
| Thallium  |       | 100   | 85  | 115 |
| Vanadium  |       | 101   | 85  | 115 |
| Zinc      |       | 97    | 85  | 115 |

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1005B.016.LCS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 14:49, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 1

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 99    | 85  | 115 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.042.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:22, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 97    | 75  | 125 |
| Barium    |       | 96    | 75  | 125 |
| Beryllium |       | 106   | 75  | 125 |
| Cadmium   |       | 94    | 75  | 125 |
| Chromium  |       | 98    | 75  | 125 |
| Cobalt    |       | 95    | 75  | 125 |
| Copper    |       | 90    | 75  | 125 |
| Lead      |       | 94    | 75  | 125 |
| Manganese |       | 91    | 75  | 125 |
| Nickel    |       | 98    | 75  | 125 |
| Selenium  |       | 104   | 75  | 125 |
| Silver    |       | 91    | 75  | 125 |
| Thallium  |       | 95    | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 97    | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005A.062.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:58, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL |
|-----------|-------|-------|-----|-----|
| Antimony  |       | 103   | 75  | 125 |
| Barium    |       | 99    | 75  | 125 |
| Beryllium |       | 105   | 75  | 125 |
| Cadmium   |       | 102   | 75  | 125 |
| Chromium  |       | 102   | 75  | 125 |
| Cobalt    |       | 100   | 75  | 125 |
| Copper    |       | 97    | 75  | 125 |
| Lead      |       | 100   | 75  | 125 |
| Manganese |       | 98    | 75  | 125 |
| Nickel    |       | 101   | 75  | 125 |
| Selenium  |       | 107   | 75  | 125 |
| Silver    |       | 93    | 75  | 125 |
| Thallium  |       | 102   | 75  | 125 |
| Vanadium  |       | 103   | 75  | 125 |
| Zinc      |       | 104   | 75  | 125 |

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.029.MS, Parent Sample ID: S40961.02

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 104   | 75  | 125 |

### Matrix Spike (MS)

Lab Sample ID: MT4-22-1005B.041.MS, Parent Sample ID: S40914.05

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:10, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL |
|---------|-------|-------|-----|-----|
| Arsenic |       | 102   | 75  | 125 |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.043.MSD, Parent Sample ID: MT4-22-1005A.042.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 12:23, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 99    | 75  | 125 | 2   | 20     |
| Barium    |       | 96    | 75  | 125 | 0   | 20     |
| Beryllium |       | 104   | 75  | 125 | 2   | 20     |
| Cadmium   |       | 97    | 75  | 125 | 2   | 20     |
| Chromium  |       | 99    | 75  | 125 | 2   | 20     |
| Cobalt    |       | 99    | 75  | 125 | 4   | 20     |
| Copper    |       | 94    | 75  | 125 | 4   | 20     |
| Lead      |       | 94    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 4   | 20     |
| Nickel    |       | 97    | 75  | 125 | 1   | 20     |
| Selenium  |       | 112   | 75  | 125 | 8   | 20     |
| Silver    |       | 91    | 75  | 125 | 1   | 20     |
| Thallium  |       | 96    | 75  | 125 | 1   | 20     |
| Vanadium  |       | 104   | 75  | 125 | 1   | 20     |
| Zinc      |       | 98    | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte   | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|-----------|-------|-------|-----|-----|-----|--------|
| Antimony  |       | 100   | 75  | 125 | 2   | 20     |
| Barium    |       | 99    | 75  | 125 | 0   | 20     |
| Beryllium |       | 105   | 75  | 125 | 0   | 20     |
| Cadmium   |       | 100   | 75  | 125 | 1   | 20     |
| Chromium  |       | 100   | 75  | 125 | 2   | 20     |
| Cobalt    |       | 100   | 75  | 125 | 0   | 20     |
| Copper    |       | 98    | 75  | 125 | 1   | 20     |
| Lead      |       | 99    | 75  | 125 | 1   | 20     |
| Manganese |       | 100   | 75  | 125 | 2   | 20     |
| Nickel    |       | 98    | 75  | 125 | 3   | 20     |
| Selenium  |       | 107   | 75  | 125 | 0   | 20     |
| Silver    |       | 91    | 75  | 125 | 3   | 20     |
| Thallium  |       | 100   | 75  | 125 | 1   | 20     |
| Vanadium  |       | 102   | 75  | 125 | 1   | 20     |

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-100522-2 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-22-1005A.063.MSD, Parent Sample ID: MT4-22-1005A.062.MS

Run in Batch: MT4-22-1005A, Run Date: 10/05/2022 13:00, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Zinc    |       | 106   | 75  | 125 | 3   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.030.MSD, Parent Sample ID: MT4-22-1005B.029.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:01, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 104   | 75  | 125 | 1   | 20     |

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1005B.042.MSD, Parent Sample ID: MT4-22-1005B.041.MS

Run in Batch: MT4-22-1005B, Run Date: 10/05/2022 15:11, Prep Date: 10/05/2022, Matrix: Liquid, Dilution: 5

| Analyte | Flags | % Rec | LCL | UCL | RPD | RPD CL |
|---------|-------|-------|-----|-----|-----|--------|
| Arsenic |       | 102   | 75  | 125 | 0   | 20     |

## QC Report - Batch QC Results

### Organics - PCBs/Pesticides, Prep Batch ID: PA221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: a22100706.sblk-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:28, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte  | Flags | Conc | RDL  | Units |
|----------|-------|------|------|-------|
| PCB-1016 |       | ND   | 0.10 | ug/L  |
| PCB-1221 |       | ND   | 0.10 | ug/L  |
| PCB-1232 |       | ND   | 0.10 | ug/L  |
| PCB-1242 |       | ND   | 0.10 | ug/L  |
| PCB-1248 |       | ND   | 0.10 | ug/L  |
| PCB-1254 |       | ND   | 0.10 | ug/L  |
| PCB-1260 |       | ND   | 0.10 | ug/L  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:40, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   |
|---------------|-------|-------|------|-------|
| PCB-1016/1260 |       | 94.74 | 50.0 | 125.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: a22100708.slcs-w.01d, Parent Sample ID: a22100707.slcs-w.01

Run in Batch: A221007, Run Date: 10/07/2022 13:51, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte       | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|---------------|-------|-------|------|-------|-----|--------|
| PCB-1016/1260 |       | 95.82 | 50.0 | 125.0 | 1.1 | 20.0   |

## QC Report - Batch QC Results

### Organics - Semi-Volatiles, Prep Batch ID: SP221006W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: H221006.BLKW06B

Run in Batch: H221006, Run Date: 10/06/2022 17:36, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | Conc | RDL     | Units |
|--------------|-------|------|---------|-------|
| Phenanthrene |       | ND   | 0.00050 | mg/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 17:56, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | % Rec | LCL  | UCL   |
|--------------|-------|-------|------|-------|
| Phenanthrene |       | 74.6  | 36.4 | 143.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: H221006.LCSDW06A, Parent Sample ID: H221006.LCSW06A

Run in Batch: H221006, Run Date: 10/06/2022 18:13, Prep Date: 10/06/2022, Matrix: WW, Dilution: 1

| Analyte      | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|--------------|-------|-------|------|-------|-----|--------|
| Phenanthrene |       | 73.2  | 36.4 | 143.0 | 1.9 | 30.0   |

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VS221007W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

#### Blank (BLK)

Lab Sample ID: 221007B9.BLKS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 21:35, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | Conc | RDL  | Units |
|-------------|-------|------|------|-------|
| 1,4-Dioxane | *     | 0.33 | 0.02 | ug/l  |

#### Laboratory Control Sample (LCS)

Lab Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 19:52, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   |
|-------------|-------|-------|------|-------|
| 1,4-Dioxane |       | 90.5  | 70.0 | 130.0 |

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221007B9.LCSDS07B, Parent Sample ID: 221007B9.LCSS07B

Run in Batch: 221007B9, Run Date: 10/07/2022 20:14, Prep Date: 10/07/2022, Matrix: WW, Dilution: 1

| Analyte     | Flags | % Rec | LCL  | UCL   | RPD | RPD CL |
|-------------|-------|-------|------|-------|-----|--------|
| 1,4-Dioxane |       | 90.2  | 70.0 | 130.0 | 0.4 | 30.0   |

## REPORT TO

## CHAIN OF CUSTODY RECORD

**INVOICE TO**

|                                                        |  |  |         |                     |                |          |  |
|--------------------------------------------------------|--|--|---------|---------------------|----------------|----------|--|
| CONTACT NAME                                           |  |  |         | Alexis Crisp        |                |          |  |
| COMPANY                                                |  |  |         | 28550 Cabot Dr #500 |                |          |  |
| ADDRESS                                                |  |  |         | Arcadis             |                |          |  |
| CITY                                                   |  |  |         | STATE               |                | ZIP CODE |  |
| Novi                                                   |  |  |         | MI                  |                | 48311    |  |
| PHONE NO.                                              |  |  | FAX NO. |                     | P.O. NO.       |          |  |
|                                                        |  |  |         |                     | 30112891.00006 |          |  |
| E-MAIL ADDRESS                                         |  |  |         | QUOTE NO.           |                |          |  |
| tiffany.linder@arcadis.com<br>Alexis.Crisp@arcadis.com |  |  |         |                     |                |          |  |

|              |  |                               |          |
|--------------|--|-------------------------------|----------|
| CONTACT NAME |  | <input type="checkbox"/> SAME |          |
| COMPANY      |  |                               |          |
| ADDRESS      |  |                               |          |
| CITY         |  | STATE                         | ZIP CODE |
| PHONE NO.    |  | E-MAIL ADDRESS                |          |

## ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

|                                                                                                                                                                                                                                             |                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| PROJECT NO./NAME<br>30112891.00006 / Racer PNC                                                                                                                                                                                              | SAMPLER(S) - PLEASE PRINT/SIGN NAME<br>Sommer Guy / Sommer Guy |
| TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER                                         |                                                                |
| DELIVERABLES REQUIRED <input type="checkbox"/> STD <input checked="" type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input checked="" type="checkbox"/> EDD <input type="checkbox"/> OTHER |                                                                |

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

[illegible]

|                                            |                           |                                             |                  |               |
|--------------------------------------------|---------------------------|---------------------------------------------|------------------|---------------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>Dommer Gay</i> Arcades | <input checked="" type="checkbox"/> Sampler | DATE<br>10/14/22 | TIME<br>17:00 |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>J. Smith</i>           |                                             | DATE<br>10/14/22 | TIME<br>13:00 |
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION | <i>J. Smith</i>           |                                             | DATE<br>10/14/22 | TIME<br>16:00 |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     | <i>M. Wilcox</i>          |                                             | DATE<br>10/14/22 | TIME<br>16:00 |

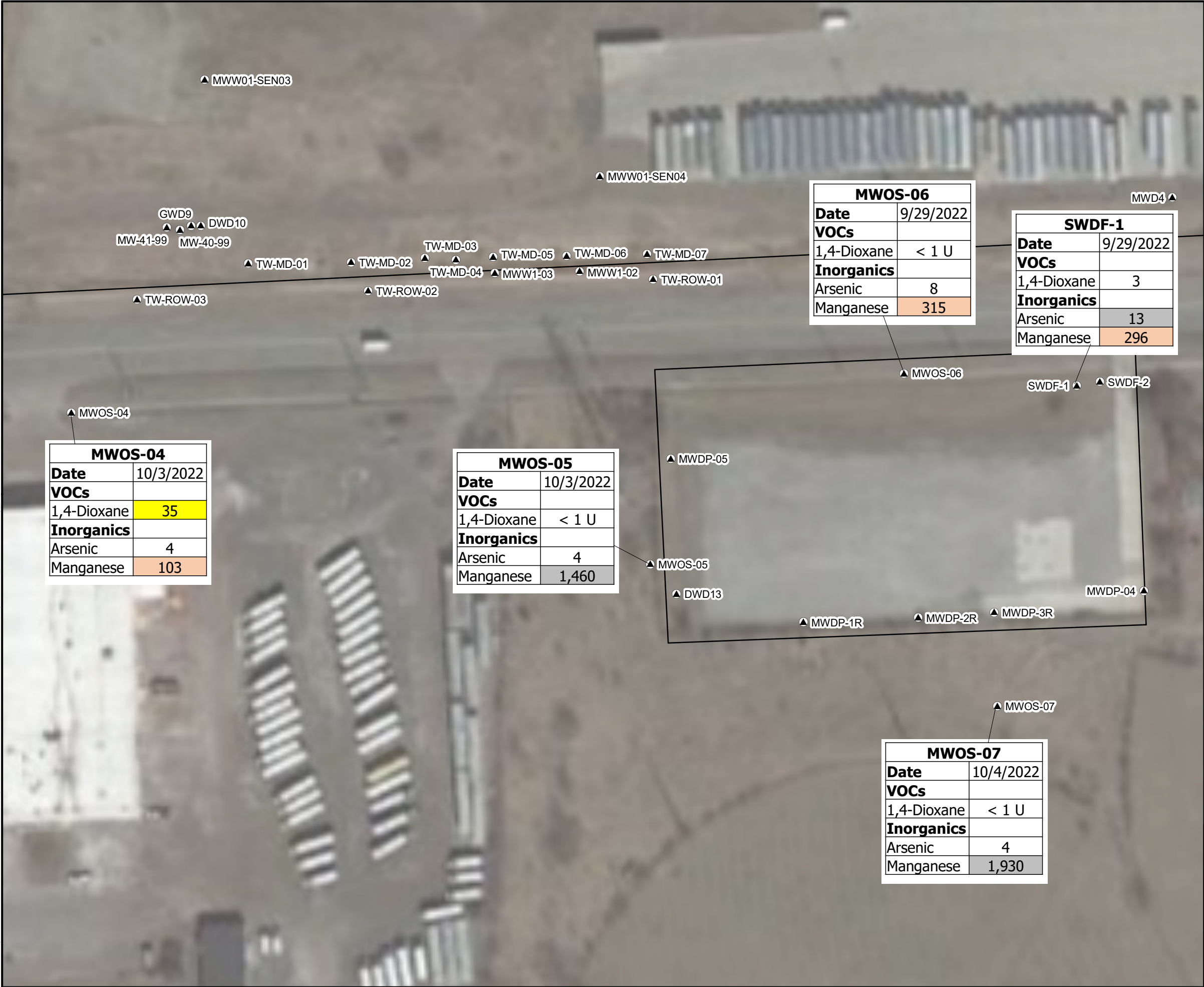
|                                            |                                                                         |          |                                    |      |
|--------------------------------------------|-------------------------------------------------------------------------|----------|------------------------------------|------|
| RELINQUISHED BY:<br>SIGNATURE/ORGANIZATION |                                                                         |          | DATE                               | TIME |
| RECEIVED BY:<br>SIGNATURE/ORGANIZATION     |                                                                         |          | DATE                               | TIME |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS | NOTES: TEMP. ON ARRIVAL <u>2.4</u> |      |
| SEAL NO.                                   | SEAL INTACT<br>YES <input type="checkbox"/> NO <input type="checkbox"/> | INITIALS |                                    |      |

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



# Appendix D

## Select Off-Site and Duck Pond Groundwater Analytical Summary



**LEGEND**

▲ EXISTING MONITORING WELL

□ CURRENT OR FORMER RACER PROPERTY

|             | Units | Residential Drinking Water | Nonresidential Drinking Water | Groundwater Surface Water Interface | Nonresidential Health Based Drinking Water Value | Residential VIAP | Nonresidential VIAP |
|-------------|-------|----------------------------|-------------------------------|-------------------------------------|--------------------------------------------------|------------------|---------------------|
| VOCs        |       |                            |                               |                                     |                                                  |                  |                     |
| 1,4-Dioxane | ug/L  | 7.2                        | 350                           | 280                                 | --                                               | 56,000           | 130,000             |
| Inorganics  |       |                            |                               |                                     |                                                  |                  |                     |
| Arsenic     | ug/L  | 10                         | 10                            | 10                                  | --                                               | --               | --                  |
| Manganese   | ug/L  | 50                         | 50                            | 1,300                               | 2,500                                            | --               | --                  |

< NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT

ug/L MICROGRAMS PER LITER

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

VOCs VOLATILE ORGANIC COMPOUNDS

VIAP VOLATILIZATION TO INDOOR AIR PATHWAY

NOTES:

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

2. DATABOXES PRESENTED ON THIS FIGURE INCLUDE ONLY THOSE PARAMETERS WHERE REGULATORY EXCEEDANCES OF PROMULGATED CRITERIA EXISTS.

3. CRITERIA LISTED ARE FROM THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE) CLEAN UP CRITERIA REQUIREMENTS TABLE 1: GROUNDWATER: RESIDENTIAL AND NONRESIDENTIAL, PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS, DECEMBER 21, 2020.

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SCALE IN FEET

RACER TRUST  
PONTIAC NORTH CAMPUS  
PONTIAC, MICHIGAN

GROUNDWATER ANALYTICAL SUMMARY  
SELECT OFFSITE AND DUCK POND  
MONITORING WELLS

**ARCADIS**

FIGURE  
1

Appendix D  
Table 1  
2022 Annual Groundwater Monitoring Report  
RACER Trust Pontiac North Campus

| Location ID:<br>Date Collected:<br>Sample Name: | Residential<br>Drinking Water | Nonresidential<br>Drinking Water | Groundwater<br>Surface Water<br>Interface | Nonresidential Health<br>Based Drinking Water<br>Value | Residential GVIIC | Nonresidential<br>GVIIC | Residential VIAP | Nonresidential<br>VIAP | Units | MWOS-04<br>10/03/22<br>MWOS-04_GW-100322 | MWOS-05<br>10/03/22<br>MWOS-05_GW-100322 | MWOS-06<br>09/29/22<br>MWOS-06_GW-092922 | MWOS-07<br>10/04/22<br>MWOS-07_GW-100422 | SWDF-1<br>09/29/22<br>SWDF-1_GW-092922 |
|-------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------|-------------------------|------------------|------------------------|-------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|----------------------------------------|
| PCBs                                            |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                          |                                          |                                          |                                          |                                        |
| Aroclor-1016 (PCB-1016)                         | 0.5                           | 0.5                              | 0.2                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                |
| Aroclor-1221 (PCB-1221)                         | 0.5                           | 0.5                              | 0.2                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                |
| Aroclor-1232 (PCB-1232)                         | 0.5                           | 0.5                              | 0.2                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                |
| Aroclor-1242 (PCB-1242)                         | 0.5                           | 0.5                              | 0.2                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                |
| Aroclor-1248 (PCB-1248)                         | 0.5                           | 0.5                              | 0.2                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                |
| Aroclor-1254 (PCB-1254)                         | 0.5                           | 0.5                              | 0.2                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                |
| Aroclor-1260 (PCB-1260)                         | 0.5                           | 0.5                              | 0.2                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                |
| Total PCBs                                      | 0.5                           | 0.5                              | 0.2                                       | --                                                     | 45                | 45                      | --               | --                     | ug/L  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                  | < 0.1 U                                |
| VOCs                                            |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                          |                                          |                                          |                                          |                                        |
| 1,4-Dioxane                                     | 7.2                           | 350                              | 280                                       | --                                                     | ==                | ==                      | 56,000           | 130,000                | ug/L  | 35                                       | < 1 U                                    | < 1 U                                    | < 1 U                                    | 3                                      |
| SVOCs                                           |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                          |                                          |                                          |                                          |                                        |
| Phenanthrene                                    | 52                            | 150                              | 2                                         | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 2 U                                    | < 2 U                                    | < 2 U                                    | < 2 U                                    | < 2 U                                  |
| Inorganics                                      |                               |                                  |                                           |                                                        |                   |                         |                  |                        |       |                                          |                                          |                                          |                                          |                                        |
| Antimony                                        | 6                             | 6                                | 130                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                  |
| Arsenic                                         | 10                            | 10                               | 10                                        | --                                                     | ==                | ==                      | --               | --                     | ug/L  | 4                                        | 4                                        | 8                                        | 4                                        | 13                                     |
| Barium                                          | 2,000                         | 2,000                            | 670                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | 111                                      | 90                                       | 110                                      | 98                                       | 92                                     |
| Beryllium                                       | 4                             | 4                                | 6.7                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                    | < 1 U                                  |
| Cadmium                                         | 5                             | 5                                | 2.5                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 0.5 U                                  | < 0.5 U                                  | < 0.5 U                                  | < 0.5 U                                  | < 0.5 U                                |
| Chromium                                        | 100                           | 100                              | 11                                        | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                  |
| Cobalt                                          | 40                            | 100                              | 100                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                  |
| Copper                                          | 1000                          | 1000                             | 13                                        | 4,000                                                  | ==                | ==                      | --               | --                     | ug/L  | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                  |
| Lead                                            | 4                             | 4                                | 14                                        | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 3 U                                    | < 3 U                                    | < 3 U                                    | < 3 U                                    | < 3 U                                  |
| Manganese                                       | 50                            | 50                               | 1,300                                     | 2,500                                                  | ==                | ==                      | --               | --                     | ug/L  | 103                                      | 1,460                                    | 315                                      | 1,930                                    | 296                                    |
| Mercury                                         | 2                             | 2                                | 0.0013                                    | --                                                     | 56                | 56                      | 2.5              | 3.7                    | ug/L  | < 0.2 U                                  | < 0.2 U                                  | < 0.2 U                                  | < 0.2 U                                  | < 0.2 U                                |
| Nickel                                          | 100                           | 100                              | 73                                        | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                  |
| Selenium                                        | 50                            | 50                               | 5                                         | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                  |
| Silver                                          | 34                            | 98                               | 0.2                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 0.5 U                                  | < 0.5 U                                  | < 0.5 U                                  | < 0.5 U                                  | < 0.5 U                                |
| Thallium                                        | 2                             | 2                                | 3.7                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 2 U                                    | < 2 U                                    | < 2 U                                    | < 2 U                                    | < 2 U                                  |
| Vanadium                                        | 4.5                           | 62                               | 27                                        | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                  |
| Zinc                                            | 2,400                         | 9000                             | 170                                       | --                                                     | ==                | ==                      | --               | --                     | ug/L  | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                    | < 5 U                                  |

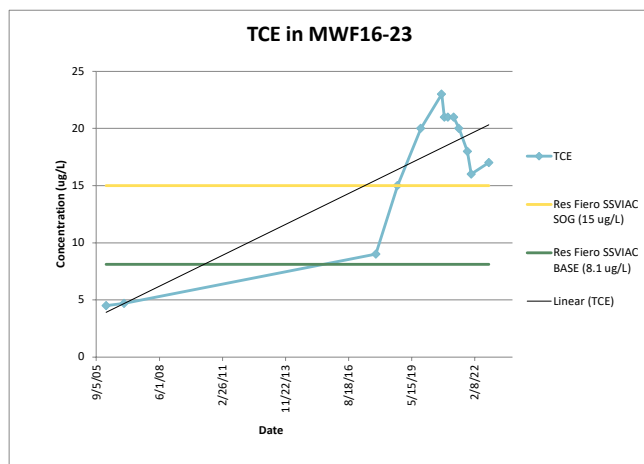
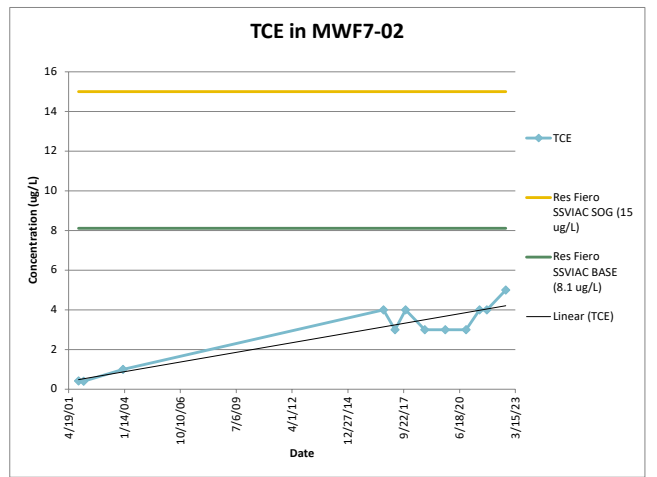
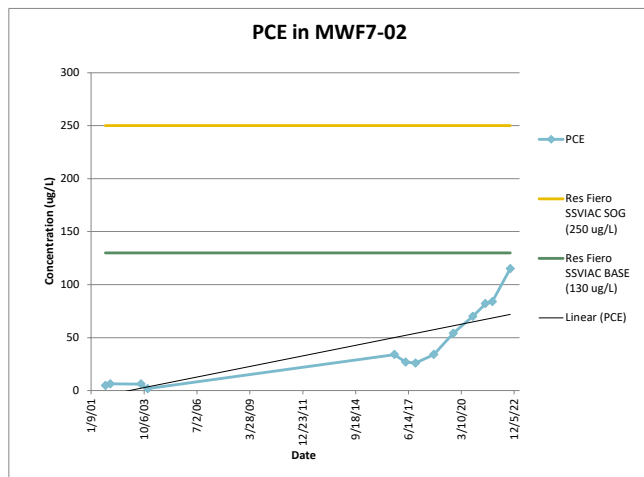
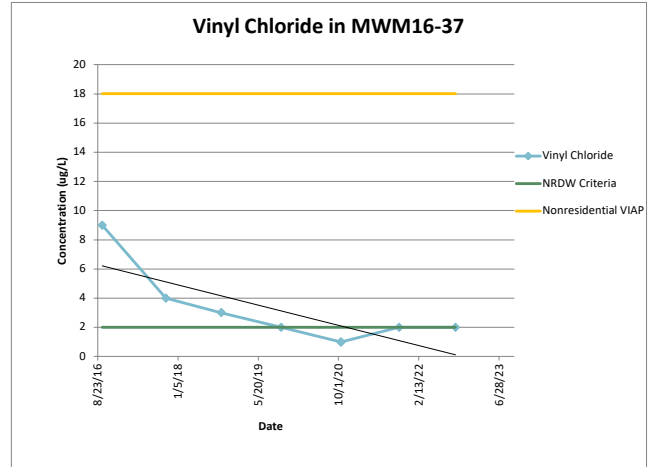
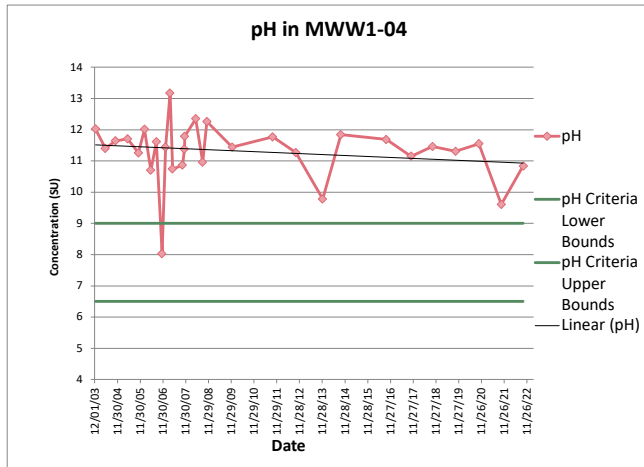
- Notes:**
- 1) Criteria listed are from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Clean Up Criteria Requirements Table 1: Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels, December 21, 2020.
  - 2) Residential and Nonresidential Volatilization to Indoor Air Pathway Screening Levels (Groundwater Not in Contact) are from the DEQ Guidance Document for the Vapor Intrusion Pathway, Appendix C - Tables 1 and 2, September 4, 2020.
  - 3) Groundwater Surface Water Interface Criteria listed for barium, beryllium, cadmium, chromium, copper, lead, manganese, nickel and zinc are calculated based on a hardness of 150 mg/L-CaCO3 for southern Lower Peninsula protected as a drinking water source.
  - 4) Yellow highlighted values denotes exceedance and/or equal to Michigan Residential Drinking Water.
  - 5) Orange highlighted values denotes exceedance and/or equal to Non-Residential Drinking Water.
  - 6) Grey shaded values denotes exceedance and/or equal to Michigan Groundwater Surface Water Interface.
  - 7) Bold values denotes exceedance and/or equal to Non-Residential Health Based Drinking Water Value.
  - 8) Values in italics denotes exceedance and/or equal to Residential Groundwater Volatilization to Indoor Air Pathway Screening Levels (Groundwater Not in Contact).
  - 9) Values in red type denotes exceedance and/or equal to Non-Residential Groundwater Volatilization to Indoor Air Pathway Screening Levels (Groundwater Not in Contact).
  - 10) Underlined values denotes exceedance and/or equal to Residential Groundwater Volatilization to Indoor Air Inhalation criteria.
  - 11) Double underlined values denotes exceedance and/or equal to Non-Residential Groundwater Volatilization to Indoor Air Inhalation criteria.
  - 12) Samples were analyzed by EPA Method E200.8, E245.1, E608.3, SM2320B, SM2340C, SM2540C, SM2540D, SW3015A, SW5030C/8260C, and SW8260B-SIM.

**Abbreviations:**

|      |                                                                                                      |
|------|------------------------------------------------------------------------------------------------------|
| ug/L | Micrograms per liter                                                                                 |
| <    | Not detected above the laboratory reporting limit                                                    |
| GVIC | Groundwater Volatilization to Indoor Air Criteria                                                    |
| NA   | Not Analyzed                                                                                         |
| PCBs | Polychlorinated biphenyls                                                                            |
| SIM  | Selected ion monitoring                                                                              |
| U    | Compound was analyzed for but not detected. The associated value is the compound quantitation limit. |
| VIAP | Volatilization to Indoor Air Pathway                                                                 |

# Appendix E

## Chemical Concentration Graphs



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