Applied EcoSystems, Inc.
Environmental Management, Consulting & Field Services

NOVEMBER 2021
SUBSURFACE INVESTIGATION

RACER TRUST
Flint West #12990
Flint, Michigan
EPA ID# MIK204011722

Æ Project # 11-4317-102

January 27, 2022

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1. INTRODUCTION AND BACKGROUND

1.1 Introduction

This report of the November 2021 subsurface investigation has been prepared on behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust for the tract identified as "Flint West Industrial Land," RACER Site #12990 Flint West, located in Flint, Michigan (Site) (Appendix A, Figure 1).

The purpose of the investigation was to further characterize PFAS detected in groundwater on the Site based on samples collected from monitoring wells. Additionally, utility information was obtained from the City of Flint to investigate the potential for Site groundwater to impact the storm and sanitary sewers. This report details the methodology and results of this investigation and includes recommendations for further investigation.

1.2 Background

The Site consists of approximately three acres of land located west of Stevens Street and north of Glenwood Avenue in Flint, Genesee County, Michigan. The central portion of the Site is developed with a Consumers Energy electrical substation. Almost the entire Site is paved with concrete remaining after the demolition of a former manufacturing building. The concrete pavement is supported by a concrete retaining wall that runs northeast-southwest along the northeast-southwest boundary of the Site. A small area on the western portion of the Site is unpaved, consisting of part of a former railroad bed. Nearly all of the Site is secured within a locked chain-link fence.

A Genesee County Parks (GCP) walking/bike trail runs along the northeast-southwest boundary of the Site, beyond which is located the Chevy Commons (formerly known as Chevy-in-the-Hole) property. Former industrial land is located to the west and to the east across Stevens Street. Current and former commercial uses are located to the southwest and south. A General Motors LLC tool and die facility is located to the southeast.

Subsurface lithology consists of sandy glacial tills comprised primarily of silty sand and clay layers in the upper approximately 20 feet to 30 feet below grade with shallow groundwater perched on a clay layer. Because site topography varies approximately 8 feet to 10 feet due to the retaining wall along the western, northeast-southwest trending property boundary, the depth to groundwater ranges from approximately eight to 17 feet below grade, the saturated thickness above the clay ranges from about 10 feet to 15 feet, and groundwater flow in this unit is generally to the northwest toward the Flint River. Bedrock was encountered at approximately 20 feet below grade on the western portion of the Site. Groundwater velocity is estimated to range from approximately 0.0017 ft/day to 0.17 ft/day based on the gradient calculated using the July 2019 gauging data (0.018 ft/ft), the range of hydraulic conductivity values for silty sand (0.0284 ft/day to 2.84 ft/day[1]), and an effective porosity of 0.30.

Subsurface investigations and corrective actions have been conducted at the site to address primarily historical releases of Chlorinated Volatile Organic Compounds (CVOCs). No

[1] Fetter, C.W. 1988, *Applied Hydrogeology, Second Edition*, Merrill Publishing Company

significant source mass was found in unsaturated soils. The highest remaining concentrations of trichloroethene are in the saturated unit and underlying clay in the central portion of the Site and immediately adjacent to the GCP trail.

Groundwater first was analyzed for PFAS in samples collected in January 2018. Several PFAS compounds, including Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS), were detected in groundwater samples from monitoring wells MW-111S and MW-112S. PFAS compounds subsequently have been detected in all monitoring wells except MW-102S, MW-104S, MW-105S, and MW-108S. The Michigan Department of Environment, Great Lakes and Energy (EGLE) established drinking water Maximum Contaminant Levels (MCLs) in August 2020 for seven PFAS, including PFOA and PFOS. On December 21, 2020, EGLE adopted the MCLs of all seven PFAS as Part 201 Residential and Nonresidential Groundwater Generic Cleanup Criteria and Screening Levels. Concentrations of PFOA and/or PFOS exceeding these Part 201 criteria have been detected in groundwater samples from MW-100S, MW-101S, MW-103S, MW-106SR, MW-107S, MW-109S, MW-110S, MW-111S, MW-112S, MW-113S, and MW-114S.
In April 2021, 16 soil borings (SB-1-21 through SB-16-21) were advanced on and off the Site to characterize PFAS in soil and groundwater. Soil and groundwater samples were submitted to Merit Laboratories and analyzed for PFAS. Soil samples SB-11-21 (15′), SB-11-21 (18′), SB-12-21 (9′), and SB-12-21 (19′) also were analyzed for fraction organic carbon (foc). One groundwater sample was collected from monitoring well MW-103S and submitted to Merit to be analyzed for Total Oxidizable Precursor Assay (TOP Assay). Based on this investigation it was determined that PFAS was detected in groundwater across most of the Site, with the highest concentrations in the north/northwestern portion of the Site, where PFAS was identified as present in both soil and groundwater. Fraction organic carbon (foc) is one indicator of the expected adsorption of PFAS. The reported concentrations of foc indicate that the concentration of foc is variable but is present; and therefore adsorption of certain PFAS, such as PFOS, and its attenuation in groundwater is expected. The Top Assay results indicate that precursors are present in the groundwater, but overall precursor concentrations do not appear to be sufficiently elevated to generate significant amounts of PFOA, PFOS, or other PFAS. Of the compounds detected in the oxidized sample, none exceeded available PFAS criteria except PFOS, however, the pre- and post-oxidation concentrations of PFOS were the same. Note, also concentrations of PFPeA and PFHxA were detected in the laboratory blank sample for the analysis.

2. SUBSURFACE INVESTIGATION

The subsurface investigation was conducted with the general objectives of further characterizing PFAS on- and off-Site. Locations of the new monitoring wells are shown on Appendix A, Figure 2.

2.1 Sewer Utility Information

Storm and sanitary sewer maps and profiles were obtained from the City of Flint on October 8, 2021. Depth, diameters, and elevations of these utilities were obtained from the information provide and added to the Site Map (Figure 2). This information was used to determine if groundwater can leak into the sewers.

2.2 Monitoring Well Installation

Three new monitoring, MW-115S, MW-116S, and MW-117S were adjacent to the April 2021 soil borings SB-16-21, SB-6-21 and SB-13-21, respectively, using hollow stem augers. Borings were advanced to a pre-determined depth so screens could bisect the water table based on the logs of the April 2021 soil borings. Monitoring wells were constructed of two-inch diameter five-foot-long stainless-steel screens and schedule 40PVC risers. Monitoring wells were finished above grade and protected with steel stickup covers. Top-of-casing and ground elevations adjacent to the well were surveyed relative to nearby previously surveyed monitoring wells.

Soil boring locations are shown on Figure 2 in Appendix A. Monitoring well/soil boring logs are included as Appendix B.

2.3 Groundwater Sampling

Groundwater samples were collected from monitoring wells MW-115S, MW-116S, and MW-117S and submitted to Merit to be analyzed for VOCs, metals (arsenic, chromium VI, total chromium, copper, lead, manganese, selenium, and zinc), and PFAS. The groundwater samples were collected via low-flow sampling procedures that consisted of lowering a dedicated length of high-density polyethylene (HDPE) tubing to an approximate depth of the mid-point of the well screen and then drawing groundwater up through the tubing using a battery-powered peristaltic pump at a low-flow rate of approximately 100 milliliters per minute. The monitoring well was gauged as the water was pumped to verify draw-down of less than 0.1 foot. The groundwater then flowed through a properly calibrated water quality meter that measured temperature, pH, dissolved oxygen, specific conductivity, oxidation-reduction potential, and turbidity in the groundwater. Results of the field parameter monitoring were recorded on an electronic groundwater sampling sheet. When each of the parameters stabilized within an acceptable range, the water being drawn from the well was considered representative of the groundwater at that location. A sample then was collected from a sampling port preceding the stability parameter measurement probes in laboratory-supplied containers and stored on ice in a cooler.

Laboratory analytical Reports are included in Appendix C.

2.4 Field Investigation Methods and Protocols

The following general protocols were followed to ensure data quality.

2.4.1 Disposable Equipment and Supplies Used

High-density polyethylene (HDPE) tubing was used for collection of groundwater during monitoring well sampling.

Laboratory-supplied PFAS-free distilled water was used for decontamination of all non-disposable equipment or, in the case of drilling equipment, as a final rinse after steam cleaning.

2.4.2 Sample Preservation and Handling

Samples were collected in laboratory-supplied containers appropriate for the intended analysis. The samples were placed in a cooler on ice for transport to the laboratory. Quality Control/Quality Assurance (QA/QC) samples and blanks were submitted to the laboratory for analysis. Samples were transported under proper chain-of-custody protocols.

3. RESULTS

The following is a discussion of the results of this subsurface investigation.

3.1 Storm and Sanitary Utility Information

Depth, diameters, and elevations of the sewer utilities were added to the Site Map (Figure 2). Additionally, previously prepared cross sections B-B' and C-C' were revised and included depictions of the storm and sanitary sewers and depth to water. The locations of the cross sections are depicted in Appendix A, Figure 3. Revised cross-sections are included as Figure 4 and Figure 5.

Table 1 shows a comparison of the elevations of the bottom of these utilities to the groundwater elevations measured in the nearest monitoring well. This comparison includes the highest and lowest recorded groundwater elevation for each location.

The bottoms of the storm drains and sanitary sewers appear to be above the function of the groundwater. Therefore, it is unlikely groundwater would infiltrate these utilities.

3.2 Groundwater Analytical Results

Groundwater samples from MW-1115S, MW-116S and MW-117S were analyzed for VOCs, metals (arsenic, chromium VI, total chromium, copper, lead, manganese, selenium, and zinc), and PFAS.

A table the groundwater sample analytical results for all groundwater samples collected on November 18, 2021 is included in Appendix D, Table 2. Groundwater sample PFAS analytical results are summarized in Figure 6.

Comparison of groundwater data (November 2021) to current EGLE Generic Residential and Non-Residential Cleanup Criteria (GR/NCC) dated December 21, 2020 indicates the following:

Metals: Total Arsenic was the only metal detected above drinking water and groundwater to surface water (GSI) criteria. Dissolved arsenic concentrations are below drinking water and GSI criteria, consistent with expected regional conditions, apparently not representing a plume, and believed generally to be naturally occurring.

VOCs: No VOCs were detected in theses groundwater samples with concentrations exceeding drinking water or GSI criteria.

PFAS: Perfluorooctane sulfonic acid (PFOS) exceeded its EGLE drinking water criterion (16 ng/L) in MW-115S and MW-116S[2]. No other PFAS compound exceeded available EGLE criteria.

[2] Note, only PFAS compounds Perfluorooctane sulfonic acid (PFOS), Perfluorononanoic acid (PFNA), Perfluorohexanoic acid (PFHxA), Perfluorohexane sulfonic acid (PFHxS), Perfluorobutane sulfonic acid (PFBS), and (GenX) have EGLE drinking water and/or GSI criteria.

A table of all groundwater sample analytical results for all groundwater samples collected on November 18, 2021 is included in Appendix D, Table 2.

4. CONCLUSIONS/RECOMMENDATIONS

PFAS was detected in two of the three new wells (MW-115S and MW-116S) installed at the Site. This correlates with the distribution of PFAS detected in other wells and also indicates PFAS is not migrating to the east or northeast toward the sewer utility lines.

VOCs were not detected in these wells above EGLE drinking water or GSI criteria.

Utility information provided by the City of Flint shows that the sanitary and sewer utilities are shallower than the highest water table measured. This indicates that it is unlikely impacted groundwater would infiltrate these utilities.

Historical groundwater analytical data along with the new groundwater data from recently installed monitoring wells has been evaluated. Æ would like to propose a change in the number of monitoring wells sampled during the semi-annual groundwater sampling event. The table below shows the proposed wells to be sampled and the rationale for inclusion in the revised monitoring network. These well are also identified in Figure 6.

Proposed Monitoring Well	Rational
MW-103S	Historically highest PFAS detected
MW-104S	Historically highest metals detected
MW-106SR	Up-gradient delineation well
MW-108S	Lateral delineation well (north).
MW-110S	Lateral delineation well (southwest)
MW-114S	Historically highest TCE concentrations
MW-117S	Lateral delineation well (northeast)

All proposed monitoring wells will be sampled for VOCs, metals and PFAS during each sampling event. All monitoring wells on and off-Site will be gauged for depth-to-water during each sampling event so the groundwater gradient can be measured.

Æ and RACER are requesting approval from USEPA to implement this revised monitoring plan.

5. SIGNATURES

This report was prepared under the supervision of the following Environmental Professionals.

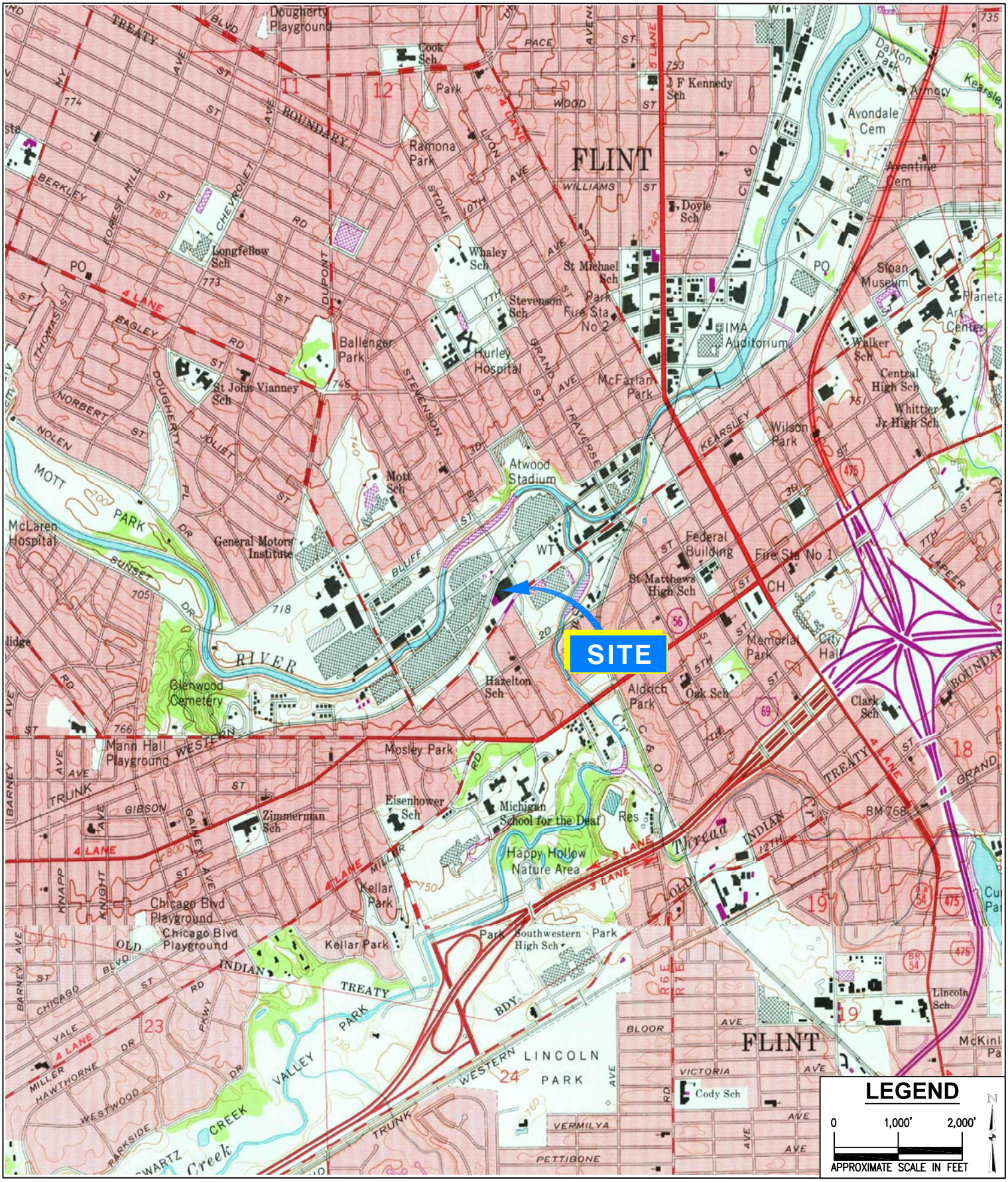
January 27, 2022

Michael D. Smith, Senior Technical Manager Date

January 27, 2022

Rodney Abke, P.G., Senior Geologist Date

APPENDIX A: FIGURES



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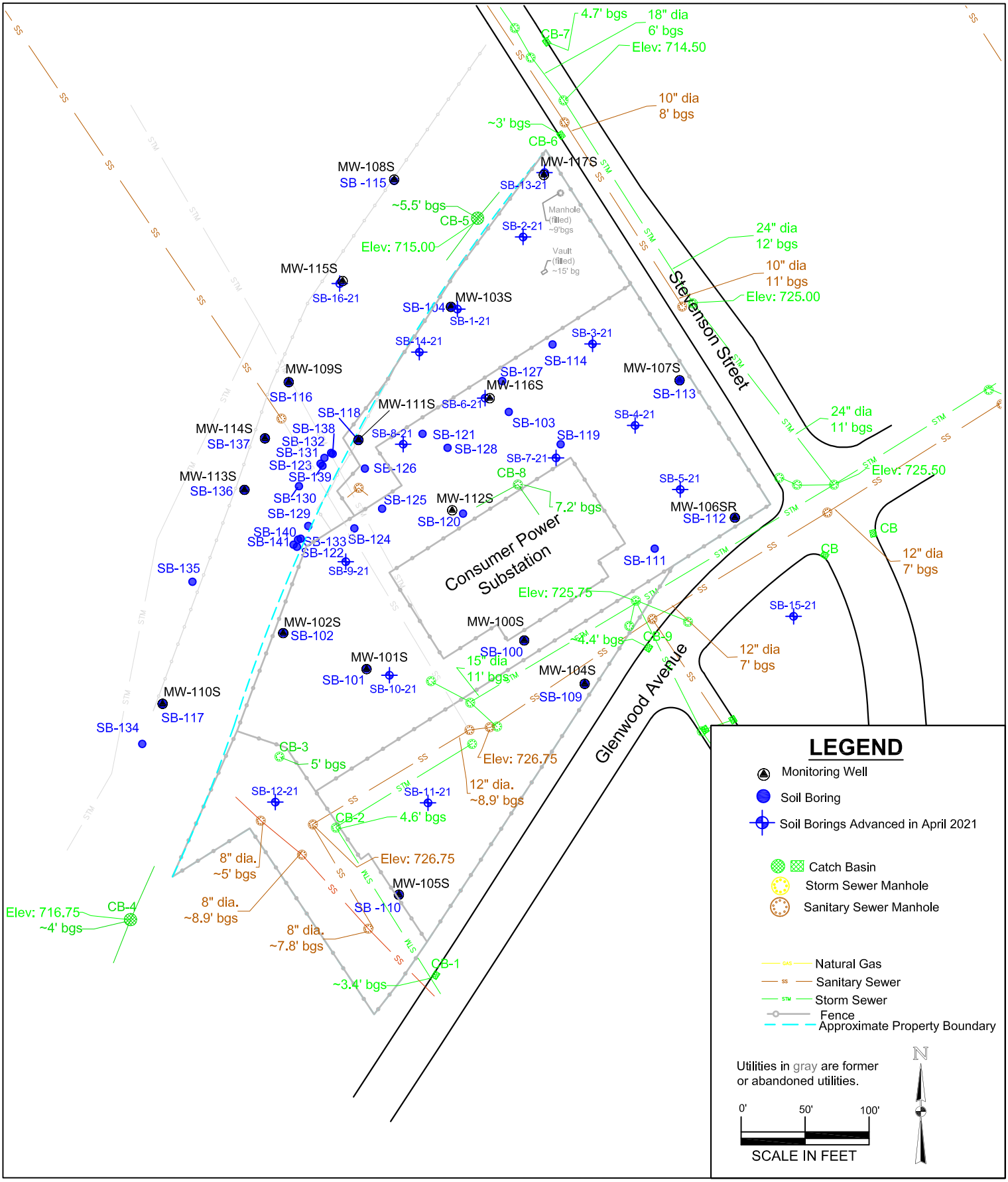
Site Location Map

RACER Flint West #12990
Glenwood Avenue & Stevenson Street
Flint, Michigan

SOURCE: USGS FLINT SOUTH QUADRANGLE (PROVISIONAL EDITION 1975)

DRAWING DATE:	CHECKED BY:
09/18/2019	MDS
PROJECT:	**FIGURE:**
11-4317-102	1



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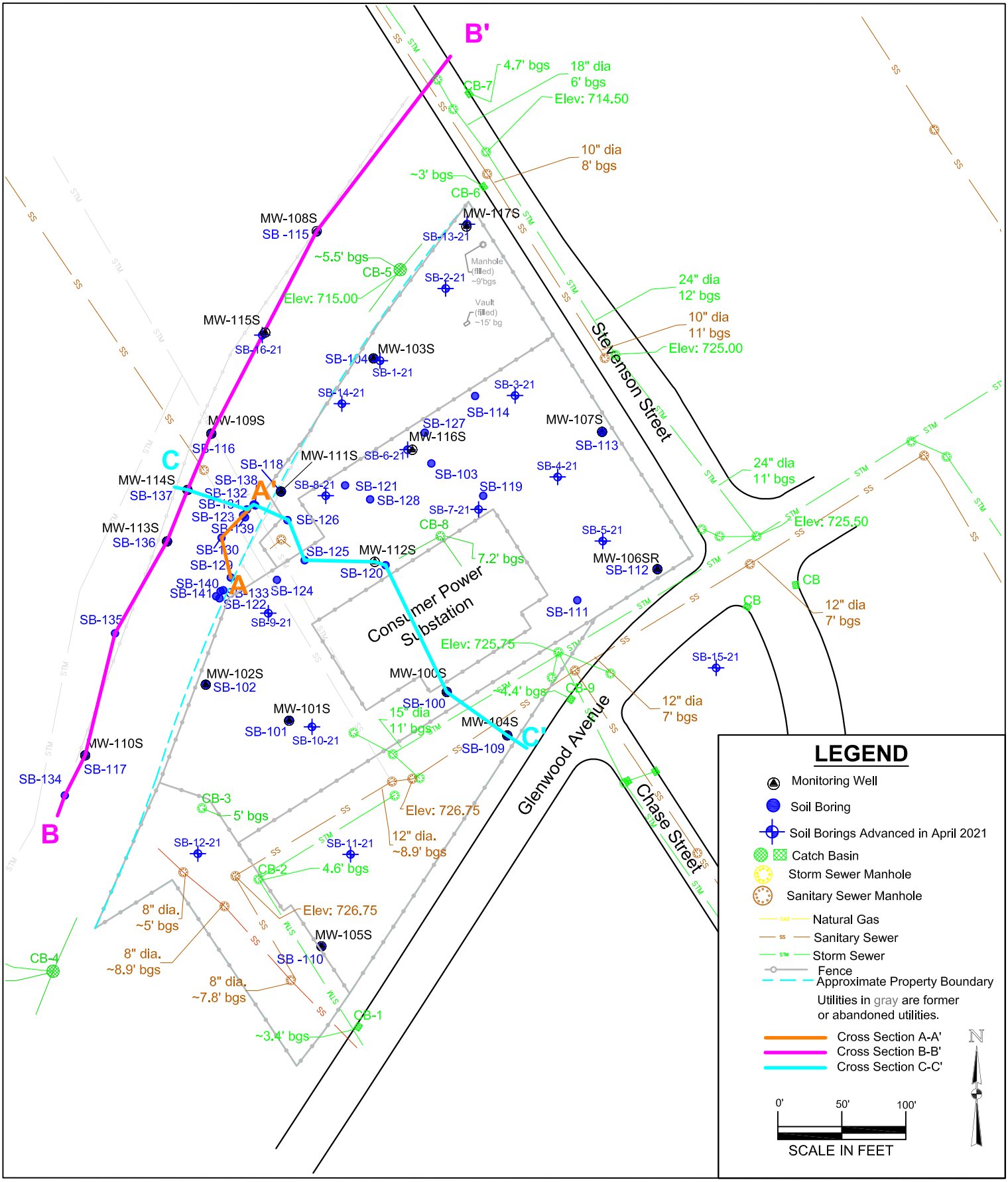
Site Map

Racer Flint West -12990
Flint West Industrial Land, Flint, Michigan

DATE:	CHECKED BY:
01/20/2022	MDS
PROJECT:	**FIGURE:**
11-4317-102	2



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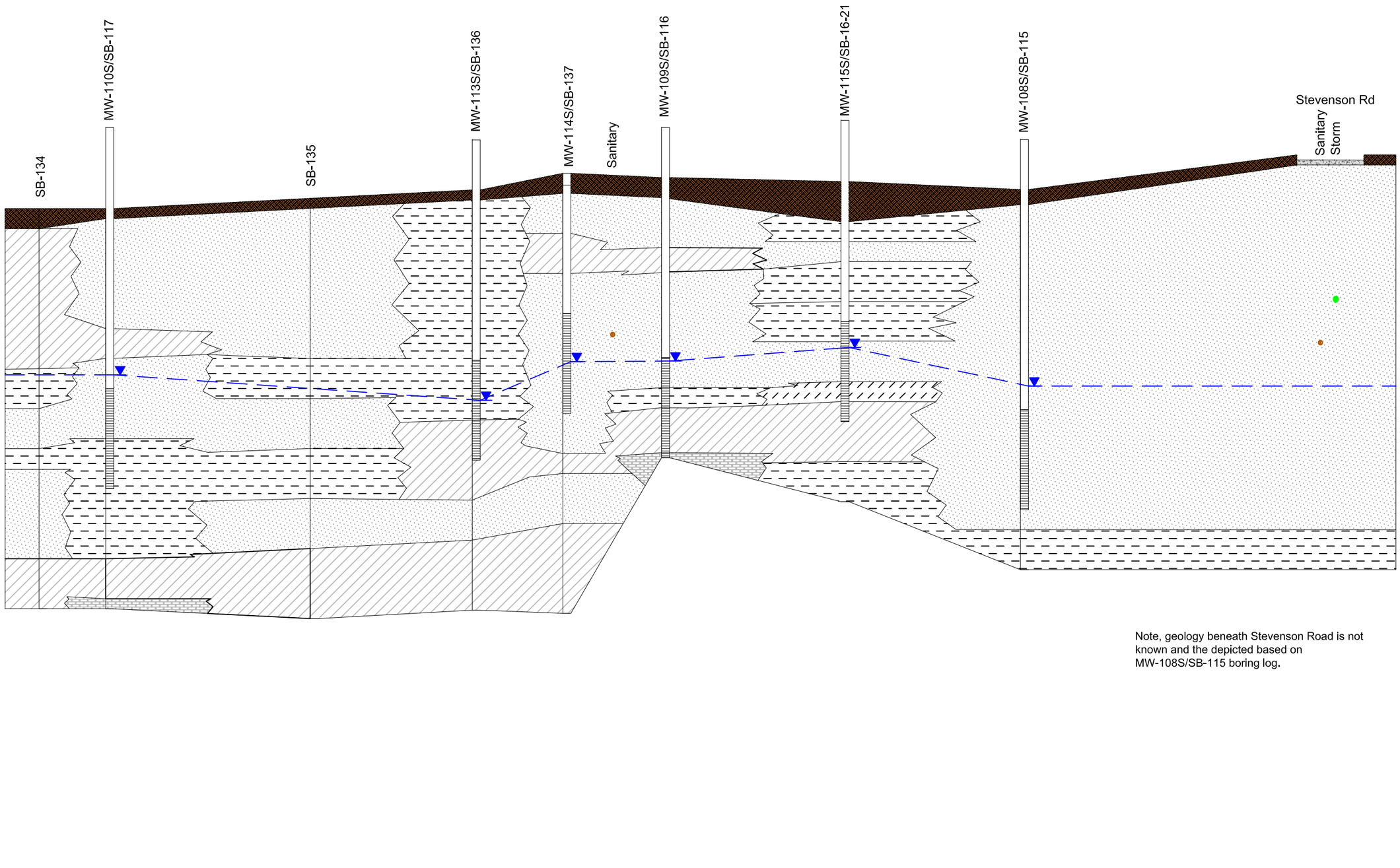
Cross Section Locations Map

Racer Flint West -12990
Flint West Industrial Land, Flint, Michigan

DATE:	CHECKED BY:
01/20/2022	MDS
PROJECT:	**FIGURE:**
11-4317-102	3



Note, geology beneath Stevenson Road is not known and the depicted based on MW-108S/SB-115 boring log.

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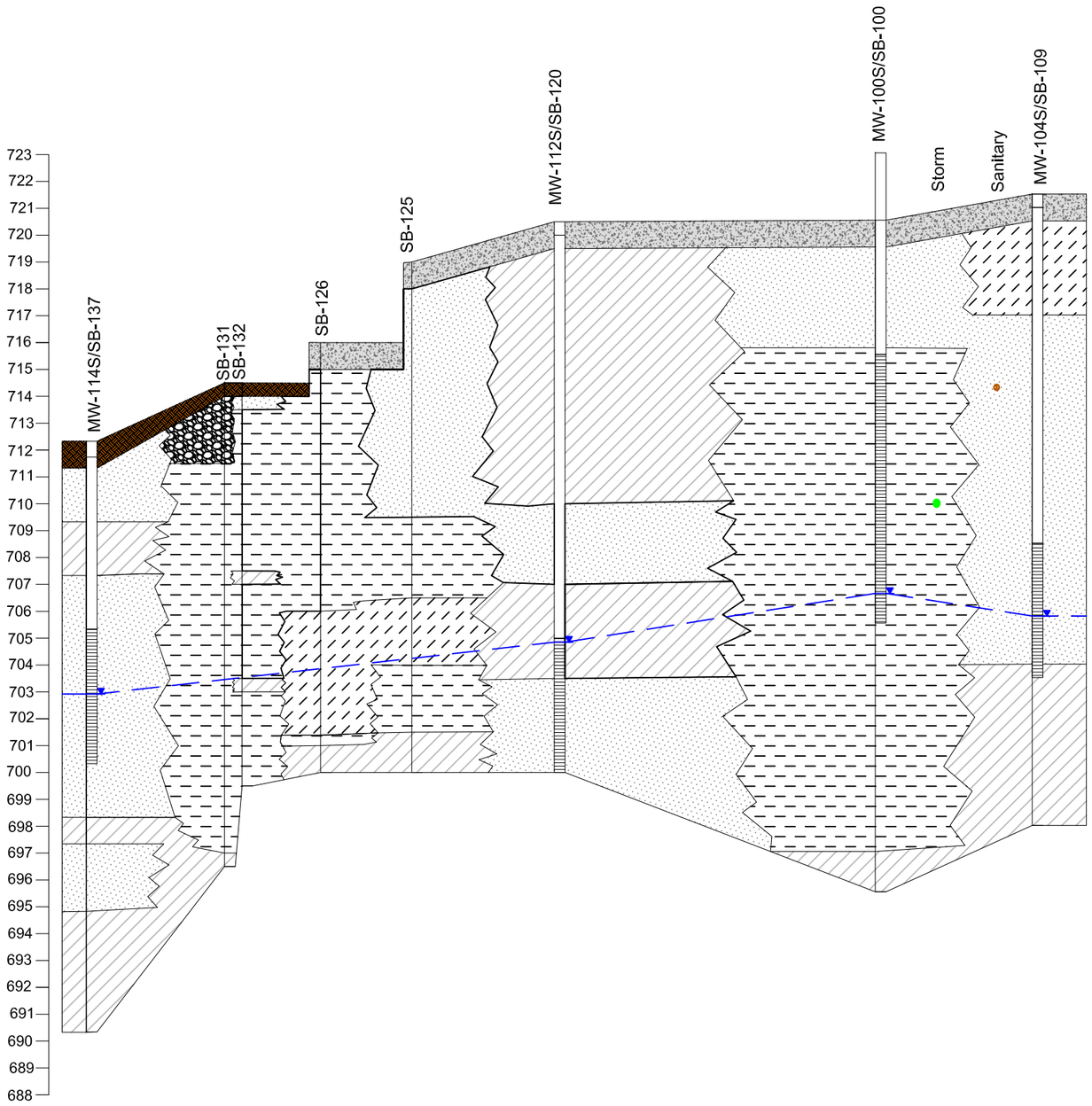
Cross Section B-B'

Racer Flint West -12990
Flint West Industrial Land, Flint, Michigan

DRAWING DATE:	CHECKED BY:
01/26/2022	MDS
PROJECT:	**FIGURE:**
11-4317-102	4



0 25 50

HORIZONTAL SCALE IN FEET

- Sanitary Sewer Line
- Storm Sewer Line
- Groundwater Elevation (approximate)
- Groundwater Elevation in Monitoring Well (09/14/2021)* * - MW-115S GW elevation from 11/18/2021.
- Topsoil
- Concrete
- Sand
- Sand & Gravel
- Silty Sand
- Clay
- Clayey Sand
- Bedrock (limestone/shale)
- Well Riser
- Well Screen

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Cross Section C-C'

Racer Flint West -12990
Flint West Industrial Land, Flint, Michigan

DRAWING DATE:	CHECKED BY:
01/26/2022	MDS
PROJECT:	FIGURE:
11-4317-102	5

MW-114S

ANALYTE	DW	GSI	9/5/18	9/5/18	2/27/20	8/19/20	3/3/21	9/15/21
PFBS	420	NC	1.7	<9.5	<10	1.8	1.8	<2.0
PFHxS	51	NC	2.4	<9.5	<10	2.3	1.8	1.5
PFHxS-LN	NC	NC	<0.88	<9.5	<10	1.6	NA	1.8
PFHpS	NC	NC	<0.88	<9.5	<10	<1.9	<2.0	<2.0
PFOS	16	12	**26**	**31**	**31**	**29**	**22**	**21**
PFBA	NC	NC	2.7	<9.5	<20	<9.7	<10	<2.0
PFPeA	NC	NC	3.6	<9.5	<10	1.1	<4.1	<2.0
PFHxA	400,000	NC	3.3	<9.5	<10	<1.9	1.6	<2.0
PFHpA	NC	NC	2.2	<9.5	<10	<1.9	<2.0	<2.0
PFOA	8	12,000	4.3	<9.5	<10	1.8	<2.0	1.7
PFNA	6	NC	1.3	<9.5	<10	<1.9	<2.0	<2.0
PFUnDA	NC	NC	<0.31	<9.5	<10	<1.9	<2.0	<2.0
PFDoDA	NC	NC	<0.46	<9.5	<10	<1.9	<2.0	<2.0
PFTrDA	NC	NC	<0.75	<9.5	<10	<1.9	<2.0	<2.0
PFTeDA	NC	NC	1.9	<9.5	<10	<1.9	<2.0	<2.0

MW-109S

ANALYTE	DW	GSI	9/5/18	7/17/19	2/27/20	8/19/20	3/3/21	9/15/21
PFBS	420	NC	2.9	<9.7	<9.9	2.7	2.2	1.6
PFHxS	51	NC	3.2	<9.7	<9.9	2.5	1.9	1.9
PFHxS-LN	NC	NC	<1.2	<9.7	<9.9	1.8	NA	<2.0
PFHpS	NC	NC	2.6	<9.7	<9.9	<2.0	<1.9	<2.0
PFOS	16	12	**27**	**28**	**31**	**29**	**21**	**23**
PFBA	NC	NC	2.9	<19	5.5	<10	<9.7	<9.8
PFPeA	NC	NC	<1.1	<9.7	<9.9	3.6	14	2.1
PFHxA	400,000	NC	1.7	<9.7	1.4	3.2	7.6	<2.0
PFHpA	NC	NC	<1.2	<9.7	<9.9	1.5	2	<2.0
PFOA	8	12,000	2.6	<9.7	2.3	3.1	3.6	**1.9**
PFNA	6	NC	1.2	<9.7	<9.9	<2.0	<1.9	<2.0
PFUnDA	NC	NC	<0.31	<9.7	<9.9	<2.0	<1.9	<2.0
PFDoDA	NC	NC	<0.46	<9.7	<9.9	<2.0	<1.9	<2.0
PFTrDA	NC	NC	<0.75	<9.7	<9.9	<2.0	<1.9	<2.0
PFTeDA	NC	NC	1.7	<9.7	<9.9	<2.0	<1.9	<2.0

MW-115S

ANALYTE	DW	GSI	11/18/21
PFHxA	400,000	NC	<4.1
PFBS	420	NC	2.3
PFOA	8	12,000	2.3
PFHxS	51	NC	2.9
PFOS	16	12	**27**

MW-108S

ANALYTE	DW	GSI	8/30/18	7/17/19
PFBS	420	NC	1.7	<9.7
PFHxS	51	NC	2.9	<9.7
PFHpS	NC	NC	<0.88	<9.7
PFOS	16	12	6	11
PFBA	NC	NC	<2.7	<19
PFPeA	NC	NC	<1.1	<9.7
PFHxA	400,000	NC	<0.92	<9.7
PFHpA	NC	NC	<1.2	<9.7
PFOA	8	12,000	0.58	<9.7
PFNA	6	NC	<0.94	<9.7
PFUnDA	NC	NC	<0.31	<9.7
PFDoDA	NC	NC	<0.46	<9.7
PFTrDA	NC	NC	<0.75	<9.7
PFTeDA	NC	NC	<1.2	<9.7

MW-117S

ANALYTE	DW	GSI	11/18/21
PFHxA	400,000	NC	1.9
PFBS	420	NC	1.4
PFOA	8	12,000	2.8
PFHxS	51	NC	<1.9
PFOS	16	12	3.1

MW-103S

ANALYTE	DW	GSI	9/5/18	1/17/19	7/17/19	2/28/20	8/19/20	3/3/21	9/16/21
PFBS	420	NC	2.2	<10	<9.4	<9.5	<2.0	1.6	<2.0
PFHxS	51	NC	<0.94	<20	<9.4	2.7	2.2	5.9	5
PFHxS-LN	NC	NC	<0.94	<20	<9.4	<9.5	2.2	NA	3.1
PFHpS	NC	NC	<0.88	<10	<9.4	<9.5	<2.0	<2.2	<2.0
PFOS	16	12	**91**	**90**	**93**	**84**	**120**	**91**	**46**
PFBA	NC	NC	<2.7	<137	<19	<19	<10	<28	<16
PFPeA	NC	NC	<1.1	<10	<9.4	<9.5	<4.0	<4.3	<3.9
PFHxA	400,000	NC	<0.92	<10	<9.4	<9.5	<2.0	<2.2	<2.0
PFHpA	NC	NC	<1.2	<10	<9.4	<9.5	<2.0	<2.2	<2.0
PFOA	8	12,000	2.6	<10	<9.4	<9.5	<2.0	<2.2	2.7
PFNA	6	NC	1.1	<10	<9.4	<9.5	<2.0	<2.2	<2.0
PFDA	NC	NC	0.53	<10	<9.4	<9.5	<2.0	<2.2	<2.0
PFUnDA	NC	NC	<0.31	<10	<9.4	<9.5	<2.0	<2.2	<2.0
PFDoDA	NC	NC	<0.46	<10	<9.4	<9.5	<2.0	<2.2	<2.0
PFTrDA	NC	NC	<0.75	<10	<9.4	<9.5	<2.0	<2.2	<2.0
PFTeDA	NC	NC	<1.2	<10	<9.4	<9.5	<2.0	<4.3	**<3.9**
EtFOSAA	NC	NC	0.90	<10	<9.4	<9.5	<2.0	<<5.4	<3.9

MW-111S

ANALYTE	DW	GSI	1/28/18	5/29/18	8/30/18	7/17/19	2/27/20	8/19/20	3/3/21	9/16/21
PFBS	420	NC	<1.9	<0.9	2.4	<9.6	<10	1.5	1.7	<2.0
PFHxS	51	NC	1.9	1.6	3.8	<9.6	<10	1.9	<2.1	<2.0
PFHpS	NC	NC	<1.9	<0.88	<0.88	<9.6	<10	<2.1	<2.1	<2.0
PFOS	16	12	**44**	**47**	**59**	**36**	**32**	**33**	**25**	11
PFBA	NC	NC	4.8	<2.7	<2.7	<9.6	<20	<10	<10	<2.0
PFPeA	NC	NC	<1.9	<1.1	1.3	<9.6	<10	2.4	4.1	2.9
PFHxA	400,000	NC	2.6	<0.92	<0.92	<9.6	<10	1.6	2.3	<2.0
PFHpA	NC	NC	<1.9	<1.2	<1.2	<9.6	<10	<2.1	<2.1	<2.0
PFOA	8	12,000	6.1	1.7	1.7	<9.6	<10	3	2.1	2
PFNA	6	NC	<1.9	<0.94	<0.94	<9.6	<10	<2.1	<2.1	<2.0
PFUnDA	NC	NC	<1.9	<0.31	<0.31	<9.6	<10	<2.1	<2.1	<2.0
PFDoDA	NC	NC	<1.9	<0.46	<0.46	<9.6	<10	<2.1	<2.1	<2.0
PFTrDA	NC	NC	<1.9	0.78	<0.75	<9.6	<10	<2.1	<2.1	<2.0
PFTeDA	NC	NC	<1.9	<1.2	<1.2	<9.6	<10	<2.1	<2.1	<2.0

MW-113S

ANALYTE	DW	GSI	8/30/18	7/17/19	2/27/20	8/19/20	3/3/21	9/15/21
PFBS	420	NC	5	<9.5	<9.5	1.8	1.8	1.6
PFHxS	51	NC	2.6	<9.5	<9.5	3.1	<2.0	1.8
PFHxS-LN	NC	NC	<0.88	<9.5	<9.5	2.6	NA	<2.1
PFHpS	NC	NC	<0.88	<9.5	<9.5	<1.9	<2.0	<2.1
PFOS	16	12	**13**	**20**	6.2	**26**	12	**23**
PFBA	NC	NC	7.1	<19	<19	<9.7	<10	<2.1
PFPeA	NC	NC	<1.1	<9.5	<9.5	1	<4.0	<2.1
PFHxA	400,000	NC	1	<9.5	<9.5	<1.9	<2.0	<2.1
PFHpA	NC	NC	1.3	<9.5	<9.5	<1.9	<2.0	<2.1
PFOA	8	12,000	2.6	<9.5	<9.5	<1.9	<2.0	1.7
PFNA	6	NC	<0.94	<9.5	<9.5	<1.9	<2.0	<2.1
PFUnDA	NC	NC	<0.31	<9.5	<9.5	<1.9	<2.0	<2.1
PFDoDA	NC	NC	<0.46	<9.5	<9.5	<1.9	<2.0	<2.1
PFTrDA	NC	NC	<0.75	<9.5	<9.5	<1.9	<2.0	<2.1
PFTeDA	NC	NC	<1.2	<9.5	<9.5	<1.9	<2.0	<2.1

MW-116S

ANALYTE	DW	GSI	11/18/21
PFHxA	400,000	NC	<1.9
PFBS	420	NC	<1.9
PFOA	8	12,000	2.0
PFHxS	51	NC	<1.9
PFOS	16	12	**22**

MW-112S

ANALYTE	DW	GSI	1/28/18	5/29/18	9/5/18	2/27/20	8/18/20	3/2/21	9/16/21
PFBS	420	NC	8.1	<0.9	1.4	<9.4	<2.0	1.7	<2.0
PFHxS	51	NC	<1.9	<0.94	<0.94	<9.4	<2.0	<2.1	<2.0
PFHpS	NC	NC	<1.9	<0.88	<0.88	<9.4	<2.0	<2.1	<2.0
PFOS	16	12	**16**	**27**	10	**22**	11	9	6.7
PFBA	NC	NC	180	41	48	<19	<9.9	<21	<2.0
PFPeA	NC	NC	<1.9	1.7	<1.1	<9.4	<2.0	<2.1	2.9
PFHxA	400,000	NC	<1.9	<0.92	<0.92	<9.4	<2.0	<2.1	<2.0
PFHpA	NC	NC	<1.9	<1.2	<1.2	<9.4	<2.0	<2.1	<2.0
PFOA	8	12,000	4.2	2.5	2.2	<9.4	<2.0	<2.1	<2.0
PFNA	6	NC	<1.9	1.8	<0.94	<9.4	<2.0	<2.1	<2.0
PFUnDA	NC	NC	<1.9	0.61	<0.31	<9.4	<2.0	<2.1	<2.0
PFDoDA	NC	NC	<1.9	<0.46	<0.46	<9.4	<2.0	<2.1	<2.0
PFTrDA	NC	NC	<1.9	0.85	<0.75	<9.4	<2.0	<2.1	<2.0
PFTeDA	NC	NC	<1.9	<1.2	<1.2	<9.4	<2.0	<2.1	<2.0

MW-107S

ANALYTE	DW	GSI	8/30/18	2/25/20	8/18/20	3/2/21	9/15/21
PFBS	420	NC	<0.90	1.9	<2.1	1.5	<1.9
PFHxS	51	NC	2.7	<9.6	<2.1	2.9	<1.9
PFHpS	NC	NC	<0.88	<9.6	<2.1	<2.1	<1.9
PFOS	16	12	**18**	**14**	**24**	**16**	**6.6**
PFBA	NC	NC	<2.7	<19	<10	<10	19
PFPeA	NC	NC	<1.1	<9.6	<2.1	<4.2	<3.9
PFHxA	400,000	NC	<0.92	<9.6	<2.1	<2.1	<1.9
PFHpA	NC	NC	<1.2	<9.6	<2.1	<2.1	<1.9
PFOA	8	12,000	2.1	<9.6	<2.1	1.9	<1.9
PFNA	6	NC	<0.94	<9.6	<2.1	<2.1	<1.9
PFUnDA	NC	NC	<0.31	<9.6	<2.1	<2.1	<1.9
PFDoDA	NC	NC	<0.46	<9.6	<2.1	<2.1	<1.9
PFTrDA	NC	NC	<0.75	<9.6	<2.1	<2.1	<1.9
PFTeDA	NC	NC	<1.2	<9.6	<2.1	<2.1	<1.9

MW-102S

ANALYTE	DW	GSI	1/28/18	5/29/18	8/30/18	07/17/19
PFBS	420	NC	<2	1.3	2	<9.7
PFHxS	51	NC	<2	2	6.1	<9.7
PFHpS	NC	NC	<2	0.81	2.4	<9.7
PFOS	16	12	7	12	11	11
PFBA	NC	NC	4.8	<2.7	3.2	<19
PFPeA	NC	NC	2.3	1.2	1.4	<9.7
PFHxA	400,000	NC	2.5	1.8	4.1	<9.7
PFHpA	NC	NC	<2	1.7	2	<9.7
PFOA	8	12,000	4.1	4.2	6.1	<9.7
PFNA	6	NC	<2	1	<0.94	<9.7
PFUnDA	NC	NC	<2	<0.31	<0.31	<9.7
PFDoDA	NC	NC	<2	<0.46	<0.46	<9.7
PFTrDA	NC	NC	<2	<0.75	<0.75	<9.7
PFTeDA	NC	NC	<2	<1.2	<1.2	<9.7

MW-100S

ANALYTE	DW	GSI	9/5/18	2/25/20	8/18/20	9/14/21
PFBS	420	NC	2.5	2.7	1.6	1.6
PFHxS	51	NC	4	<9.8	<2.0	<2.0
PFHpS	NC	NC	1.4	<9.8	<2.0	<2.0
PFOS	16	12	**20**	**20**	**18**	**9.1**
PFBA	NC	NC	<2.7	<20	<9.8	<9.8
PFPeA	NC	NC	<1.1	<9.8	<3.9	1.1
PFHxA	400,000	NC	1	<9.8	<2.0	<2.0
PFHpA	NC	NC	<1.2	<9.8	<2.0	<2.0
PFOA	8	12,000	2	<9.8	<2.0	<2.0
PFNA	6	NC	<0.94	<9.8	<2.0	<2.0
PFUnDA	NC	NC	<0.31	<9.8	<2.0	<2.0
PFDoDA	NC	NC	<0.46	<9.8	<2.0	<2.0
PFTrDA	NC	NC	<0.75	<9.8	<2.0	<2.0
PFTeDA	NC	NC	<1.2	<9.8	<2.0	<2.0

MW-104S

ANALYTE	DW	GSI	9/5/18
PFBS	420	NC	1.3
PFHxS	51	NC	2.1
PFHpS	NC	NC	<0.88
PFOS	16	12	<1
PFBA	NC	NC	<2.7
PFPeA	NC	NC	<1.1
PFHxA	400,000	NC	1.2
PFHpA	NC	NC	<1.2
PFOA	8	12,000	0.79
PFNA	6	NC	<0.94
PFUnDA	NC	NC	<0.31
PFDoDA	NC	NC	<0.46
PFTrDA	NC	NC	<0.75
PFTeDA	NC	NC	1.6

MW-106SR

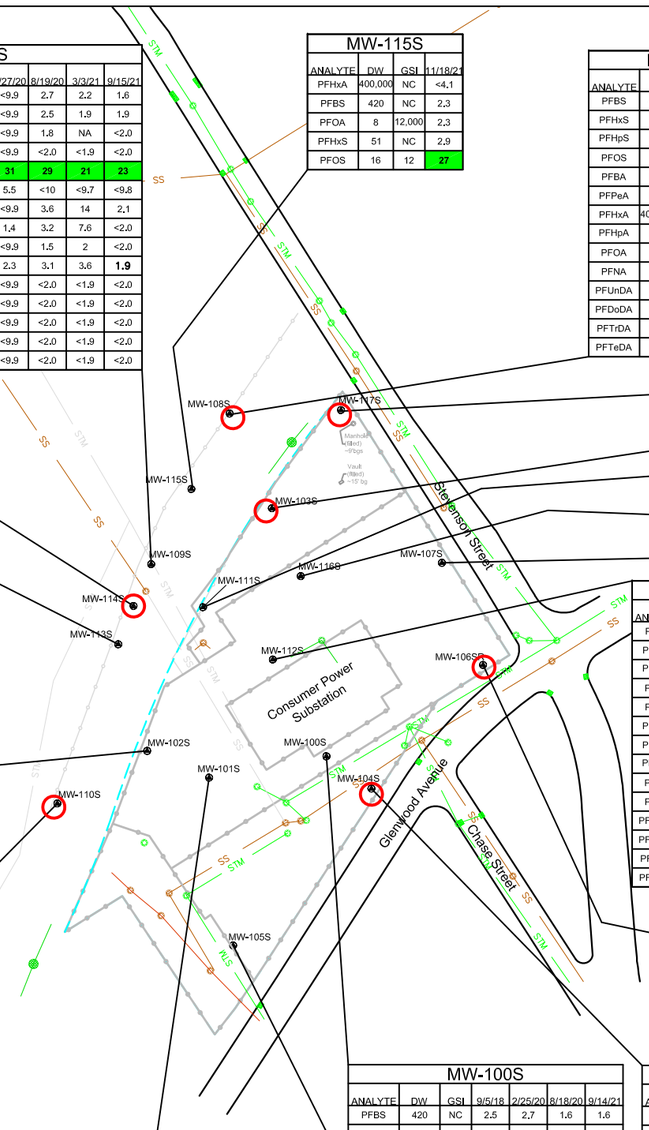
ANALYTE	DW	GSI	9/5/18	2/25/20	8/18/20	9/14/21
PFHxA	400,000	NC	<0.31	<10	3.7	3.8
PFBS	420	NC	4.6	4.5	3.2	3.6
PFHxS	51	NC	3.3	<10	3.1	2.1
PFHxS-LN	NC	NC	<0.94	<10	2.3	1.6
PFHpA	NC	NC	<0.94	<10	3	2.1
PFHpS	NC	NC	1.3	<10	<2.0	2.5
PFOS	16	12	7.3	7.3	7.3	18
PFBA	NC	NC	5.9	8.1	<10	<9.6
PFPeA	NC	NC	1.1	<10	3.1	3.3
PFHxA	400,000	NC	2	3.5	3.7	3.8
PFHpA	NC	NC	2	2.8	<2.0	2.1
PFOA	8	12,000	12	8.7	11	18
PFNA	6	NC	<0.94	<10	<2.0	<1.9
PFDA	NC	NC	0.58	<10	<2.0	<1.9
PFUnDA	NC	NC	<0.31	<10	<2.0	<1.9
PFDoDA	NC	NC	<0.46	<10	<2.0	<1.9
PFTrDA	NC	NC	<0.75	<10	<2.0	<1.9
PFTeDA	NC	NC	2.8	<10	<2.0	<1.9
EtFOSSAA	NC	NC	<0.83	<10	<2.0	<1.9

MW-101S

ANALYTE	DW	GSI	1/28/18	5/29/18	9/5/18	2/25/20	8/18/20	3/3/21	9/14/21
PFBS	420	NC	<1.9	<0.9	1.4	2.3	1.9	1.9	**<1.9**
PFHxS	51	NC	<1.9	1.4	1.9	<10	1.9	<2.1	<1.9
PFHpS	NC	NC	<1.9	<0.88	1.2	<10	<1.9	<2.1	<1.9
PFHpS-LN	NC	NC	<1.9	<0.88	<0.31	<10	1.6	NA	**<1.9**
PFOS	16	12	**35**	12	**33**	**21**	**30**	**25**	**37**
PFBA	NC	NC	3.1	<2.7	3.8	<20	<9.7	<10	5.5
PFPeA	NC	NC	<1.9	<1.1	1.2	<10	1.9	<4.1	**2.6**
PFHxA	400,000	NC	<1.9	<0.92	1.5	1.7	<1.9	<2.1	**2.1**
PFHpA	NC	NC	<1.9	<1.2	<1.2	<10	<1.9	<2.1	<1.9
PFOA	8	12,000	4.4	2	4.5	<10	3.2	2.5	5.5
PFNA	6	NC	<1.9	1.1	1.2	<10	<1.9	<2.1	<1.9
PFUnDA	NC	NC	<1.9	<0.31	<0.31	<10	<1.9	<2.1	<1.9
PFDoDA	NC	NC	<1.9	0.51	<0.46	<10	<1.9	<2.1	<1.9
PFTrDA	NC	NC	<1.9	0.82	<0.75	<10	<10	<2.1	<1.9
PFTeDA	NC	NC	<1.9	1.4	<1.2	<10	<10	<4.1	**<3.9**

MW-105S

ANALYTE	DW	GSI	9/5/18
PFBS	420	NC	1.8
PFHxS	51	NC	12
PFHpS	NC	NC	2.5
PFOS	16	12	<1
PFBA	NC	NC	3.2
PFPeA	NC	NC	<1.1
PFHxA	400,000	NC	1.6
PFHpA	NC	NC	<1.2
PFOA	8	12,000	4.5
PFNA	6	NC	<0.94
PFUnDA	NC	NC	<0.31
PFDoDA	NC	NC	<0.46
PFTrDA	NC	NC	<0.75
PFTeDA	NC	NC	<1.2



LEGEND

Monitoring Well

DW = Drinking Water Threshold.

GSI = Ground Water to Surface Water Interface based on Rule 57.

NC = Insufficient data to develop criterion/no criterion.

PFAS criteria based on EGLE proposed drinking water criteria for selected PFAS compounds.

= Compound exceeds GSI criteria

= Compound exceeds DW criteria.

= Compound exceeds GSI and DW criteria.

Concentrations presented in parts per trillion (ng/L).

Only detected constituents listed.

PFA Constiuents

Perfluorobutane sulfonic acid	(PFBS)
Perfluorohexane sulfonic acid	(PFHxS)
Perfluorohexane Sulfonic acid–LN	(PFHxS–LN)
Perfluoroheptane sulfonic acid	(PFHpS)
Perfluorooctane sulfonic acid	(PFOS)
Perfluorobutanoic acid	(PFBA)
Perfluoropentanoic acid	(PFPeA)
Perfluorohexanoic acid	(PFHxA)
Perfluoroheptanoic acid	(PFHpA)
Perfluorooctanoic acid	(PFOA)
Perfluorononanoic acid	(PFNA)
Perfluorodecanoic acid	(PFDA)
Perfluoroundecanoic acid	(PFUnDA)
Perfluorododecanoic acid	(PFDoDA)
Perfluorotridecanoic acid	(PFTrDA)
Perfluorotetradecanoic acid	(PFTeDA)
N–Ethyl perfluorooctane sulfonamidoacetic acid	(EtFOSSAA)

= Monitoring well included in proposed revised semi–annual groundwater monitoring network.

N

0 80 160

SCALE IN FEET

Applied EcoSystems, Inc.
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526

PFAS Groundwater Analytical Map

Racer Flint West -12990
Flint West Industrial Land, Flint, Michigan

DRAWING DATE:	CHECKED BY:
01/26/2022	MDS
PROJECT:	FIGURE:
11-4317-102	6

APPENDIX B: BORING LOGS

Applied *Eco*Systems, Inc.
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: (810)715-2525 Fax: (810)715-2526

Log of Borehole: MW-115S/SB-16-21

Project No.: 11-4317-102

Address: Stevenson Street & Kearsley Street

City, State: Flint, Michigan

SUBSURFACE PROFILE

Depth	Soil Type	Description	Graphic Symbol	Sample ID	PID ppm (0 – 250 – 500)
0		Ground Surface			
0	Tps	TOPSOIL, Brown with trace gravel and with mixed organics			0.0
2	SM	SAND and SILT, fine with trace gravel, brown, loose, moist			0.0
	SP	SAND fine with trace clay, brown, loose, moist		SB-16-21 (3') Soil	0.0
4	SM	SAND and SILT, fine, brown, loose, moist			0.0
6	SM	SAND fine, with silt, trace gravel after 7', brown, loose, moist			0.0
8	SP	SAND fine with trace silt, brown, loose, moist		SB-16-21 (8') Soil	0.0
10	CL-SP	CLAY and SAND, brownish-grey, medium stiff, moist			0.0
12	CL	CLAY, grey, with sand and gravel, medium stiff, moist			0.0
14	SM	SILT, fine with sand and gravel, grey, medium stiff, moist to dry			0.1
	SM	SAND fine, with silt and trace gravel, grey, loose, wet			0.1
16		End of Log		SB-16-21 (16') Soil	2.2
18					
20					

Well Completion Details: Stickup; Bentonite; Filter Sand; 2" Stainless Steel (7-12'); Bentonite

Drilled By: AE/RAA

Drill Method: Geoprobe/Hollow Stem Auger

Drill Date: 11/10/2021

Borehole Size: 8.5 inches

Well Diameter: 2 inch

Sheet: 1 of 1

Applied *Eco*Systems, Inc.
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: (810)715-2525 Fax: (810)715-2526

Log of Borehole: MW-116S/SB-6-21

Project No.: 11-4317-102

Address: Stevenson Street & Kearsley Street

City, State: Flint, Michigan

SUBSURFACE PROFILE

Depth	Soil Type	Description	Graphic Symbol	Sample ID	PID ppm (0 – 250 – 500)	Well Completion Details
0		Ground Surface				
0		CONCRETE, Grey			0.0	Stickup
1	SP	SAND fine, brown, loose, moist			0.0	
2	SM	SAND fine with slag, brown, loose, dry			0.0	
3	ML	SAND and SILT fine, brown, loose, moist			0.0	
4		SILT, fine, brown, medium dense, moist			0.0	
4	SM	SAND fine, and silt, brown, loose, moist			0.0	
6	SM	SILT fine, with trace sand, brown, medium dense, moist			0.0	
7				SB-6-12 (7') Soil	0.0	Bentonite
8	SM	SAND and SILT, fine, brown, loose, moist			0.0	
10	SP	SAND fine, with trace silt and clay, brown, loose, moist			0.0	
12	SC	SAND fine, with clay and trace silt, brown, loose, moist			0.0	
14					0	
15				SB-6-12 (15') Soil	0.0	Filter Sand
16	SP	SAND fine, with trace silt and clay, brown, loose, moist			0.0	
18					0.0	
20	SM	SAND and SILT, fine, with clay seam, brown, loose to medium dense, wet			0.0	Bentonite
22				SB-6-12 (22') W	0.0	2" Stainless Steel (14-19')
24	CL	CLAY, and SILT, grey, with gravel and rocks, plastic, wet		SB-6-12 (24') W	0.0	
26		End of Log				

Drilled By: AE/RAA

Drill Method: Geoprobe/Hollow Stem Auger

Drill Date: 11/10/2021

Borehole Size: 8.5 inches

Well Diameter: 2 inch

Sheet: 1 of 1

Applied *Eco*Systems, Inc.
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: (810)715-2525 Fax: (810)715-2526

Log of Borehole: MW-117S/SB-13-21

Project No.: 11-4317-102

Address: Stevenson Street & Kearsley Street

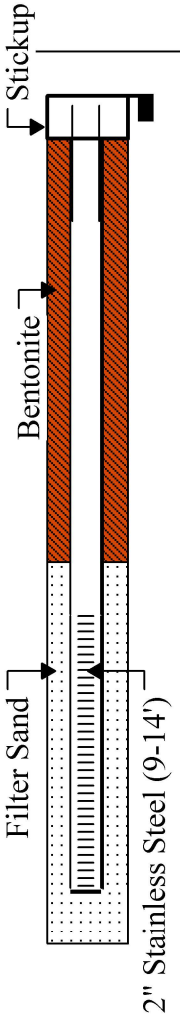
City, State: Flint, Michigan

SUBSURFACE PROFILE

Depth	Soil Type	Description	Graphic Symbol	Sample ID	PID ppm
0		Ground Surface			
0		CONCRETE, Grey			
1		SAND fine, with trace silt and trace concrete, brown, loose, moist			0.4
2	SP	SAND fine, with trace silt, brown, loose, moist			0.3
3					0.0
4	SM	SAND fine, with silt, brown, loose, moist			0.0
5					0.0
5	ML	SILT, fine with trace sand, brown, plastic, moist			0.4
6	SP	SAND fine, with silt after 7', brown, loose, moist		SB-13-21 (6') Soil	0.0
7					0.0
8	SP	SAND fine, with trace silt to no silt after 9', brown, loose, moist			0.4
9					0.5
10	SP	SAND fine, with silt seam, brown, loose, moist			0.6
11				SB-13-21 (11') Soil	0.3
12	SP	SAND fine, with silt after 12', brown, loose, saturated		SB-13-21 (12') W	0.3
13					0
14	CL	CLAY, silty, with trace gravel, brown, plastic, moist			0.3
15				SB-13-21 (15') W	
16		End of Log			
17					
18					
19					
20					

PID ppm: 0 – 250 – 500

Well Completion Details



Drilled By: AE/RAA

Drill Method: Geoprobe/Hollow Stem Auger

Drill Date: 11/10/2021

Borehole Size: 8.5 inches

Well Diameter: 2 inch

Sheet: 1 of 1

APPENDIX C: LABORATORY REPORTS

Analytical Laboratory Report

Report ID: S30542.01(01)
Generated on 11/29/2021

Report to

Attention: Rodney Abke
Applied Ecosystems
G4300 S. Saginaw Street
Burton, MI 48529

Phone: 810-715-2525 FAX:
Email: rabke@appliedecosystems.com

Report produced by

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

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

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S30542.01-S30542.07
Project: RACER Flint West #12990
Collected Date(s): 11/18/2021
Submitted Date/Time: 11/18/2021 15:30
Sampled by: Rodney Abke
P.O. #: 795930

Table of Contents

Maya Murshak
Technical Director

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).
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 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.

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

Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
SM3500-Cr B	Standard Method 3500 Cr B 2011
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 (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S30542.01	MW-115S-211118	Groundwater	11/18/21 10:26
S30542.02	MW-116S-211118	Groundwater	11/18/21 09:06
S30542.03	MW-117S-211118	Groundwater	11/18/21 11:04
S30542.04	DUP-1-211118	Groundwater	11/18/21 00:01
S30542.05	EB-1-211118	Water	11/18/21 11:30
S30542.06	FB-1-211118	Water	11/18/21 08:45
S30542.07	Trip Blank-211118	Water	11/18/21 00:01

Analytical Laboratory Report

Lab Sample ID: S30542.01
Sample Tag: MW-115S-211118
Collected Date/Time: 11/18/2021 10:26
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	11/22/21 12:00	BML	
Metal Digestion	Completed	SW3015A	11/23/21 11:15	CCM	
Metal Digestion	Completed	SW3015A	11/23/21 11:15	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 11/18/21 18:05, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI, Dissolved	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Method: SM3500-Cr B, Run Date: 11/18/21 17:20, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI	Not detected	0.05	0.02	mg/L	5	18540-29-9	

Metals

Method: E200.8, Run Date: 11/23/21 12:45, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.041	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000750	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.00111	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.007	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 11/23/21 12:47, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.010	0.002	0.000255	mg/L	5	7440-38-2	
Chromium, Dissolved	0.000136	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper, Dissolved	0.000468	0.005	0.000377	mg/L	5	7440-50-8	b
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc, Dissolved	0.00337	0.005	0.000730	mg/L	5	7440-66-6	b

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 19:02, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Benzene	0.25	1	0.10	ug/L	1	71-43-2	J

b-Value detected less than reporting limit, but greater than MDL
J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S30542.01 (continued)
Sample Tag: MW-115S-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 19:02, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Chlorobenzene	0.23	1	0.10	ug/L	1	108-90-7	J
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
1,2-Dichlorobenzene	0.48	1	0.10	ug/L	1	95-50-1	J
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	0.15	1	0.10	ug/L	1	106-46-7	J
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S30542.01 (continued)
Sample Tag: MW-115S-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 19:02, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
Vinyl chloride	0.95	1	0.10	ug/L	1	75-01-4	J
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S30542.02
Sample Tag: MW-116S-211118
Collected Date/Time: 11/18/2021 09:06
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	11/22/21 12:00	BML	
Metal Digestion	Completed	SW3015A	11/23/21 11:15	CCM	
Metal Digestion	Completed	SW3015A	11/23/21 11:15	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 11/18/21 18:10, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI, Dissolved	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Method: SM3500-Cr B, Run Date: 11/18/21 17:30, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI	Not detected	0.05	0.02	mg/L	5	18540-29-9	

Metals

Method: E200.8, Run Date: 11/23/21 12:50, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.023	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000174	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.000638	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	0.000204	0.003	0.000190	mg/L	5	7439-92-1	b
Selenium	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.00488	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 11/23/21 12:53, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.005	0.002	0.000255	mg/L	5	7440-38-2	
Chromium, Dissolved	0.00122	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper, Dissolved	Not detected	0.005	0.000377	mg/L	5	7440-50-8	
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc, Dissolved	0.00410	0.005	0.000730	mg/L	5	7440-66-6	b

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 19:22, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Benzene	0.43	1	0.10	ug/L	1	71-43-2	J

b-Value detected less than reporting limit, but greater than MDL
J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S30542.02 (continued)
Sample Tag: MW-116S-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 19:22, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	

Lab Sample ID: S30542.02 (continued)
Sample Tag: MW-116S-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 19:22, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		

Lab Sample ID: S30542.03
Sample Tag: MW-117S-211118
Collected Date/Time: 11/18/2021 11:04
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	11/22/21 12:00	BML	
Metal Digestion	Completed	SW3015A	11/23/21 11:15	CCM	
Metal Digestion	Completed	SW3015A	11/23/21 11:15	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 11/18/21 18:15, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI, Dissolved	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Method: SM3500-Cr B, Run Date: 11/18/21 17:35, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Metals

Method: E200.8, Run Date: 11/23/21 12:55, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.000314	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium	0.000299	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.00126	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.010	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 11/23/21 12:58, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.000590	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium, Dissolved	0.000266	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper, Dissolved	0.00120	0.005	0.000377	mg/L	5	7440-50-8	b
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc, Dissolved	0.006	0.005	0.000730	mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 19:41, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	

b-Value detected less than reporting limit, but greater than MDL

Lab Sample ID: S30542.03 (continued)
Sample Tag: MW-117S-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 19:41, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Chloroform	0.18	1	0.10	ug/L	1	67-66-3	J
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S30542.03 (continued)
Sample Tag: MW-117S-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 19:41, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
Trichloroethene	1	1	0.10	ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		

Lab Sample ID: S30542.04
Sample Tag: DUP-1-211118
Collected Date/Time: 11/18/2021 00:01
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	11/22/21 12:00	BML	
Metal Digestion	Completed	SW3015A	11/23/21 11:15	CCM	
Metal Digestion	Completed	SW3015A	11/23/21 11:15	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 11/18/21 18:20, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI, Dissolved	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Method: SM3500-Cr B, Run Date: 11/18/21 17:45, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI	Not detected	0.25	0.1	mg/L	25	18540-29-9	

Metals

Method: E200.8, Run Date: 11/23/21 13:10, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.022	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000336	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.000653	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.009	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 11/23/21 13:13, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.005	0.002	0.000255	mg/L	5	7440-38-2	
Chromium, Dissolved	0.000154	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper, Dissolved	Not detected	0.005	0.000377	mg/L	5	7440-50-8	
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc, Dissolved	0.009	0.005	0.000730	mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 20:00, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Benzene	0.42	1	0.10	ug/L	1	71-43-2	J

b-Value detected less than reporting limit, but greater than MDL
J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S30542.04 (continued)
Sample Tag: DUP-1-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 20:00, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	

Lab Sample ID: S30542.04 (continued)
Sample Tag: DUP-1-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 20:00, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		

Lab Sample ID: S30542.05
Sample Tag: EB-1-211118
Collected Date/Time: 11/18/2021 11:30
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	11/22/21 12:00	BML	
Metal Digestion	Completed	SW3015A	11/23/21 11:15	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 11/18/21 18:25, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI, Dissolved	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Metals

Method: E200.8, Run Date: 11/23/21 12:38, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002	0.000102	mg/L	2	7440-38-2	
Chromium, Dissolved	Not detected	0.005	0.0000386	mg/L	2	7440-47-3	
Copper, Dissolved	Not detected	0.005	0.000150	mg/L	2	7440-50-8	
Lead, Dissolved	Not detected	0.003	0.0000760	mg/L	2	7439-92-1	
Selenium, Dissolved	Not detected	0.005	0.000838	mg/L	2	7782-49-2	
Zinc, Dissolved	0.00190	0.005	0.000292	mg/L	2	7440-66-6	b

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/22/21 15:39, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	

b-Value detected less than reporting limit, but greater than MDL

Lab Sample ID: S30542.05 (continued)
Sample Tag: EB-1-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/22/21 15:39, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		

Analytical Laboratory Report

Lab Sample ID: S30542.06
Sample Tag: FB-1-211118
Collected Date/Time: 11/18/2021 08:45
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	11/22/21 12:00	BML	
Metal Digestion	Completed	SW3015A	11/23/21 11:15	CCM	
Metal Digestion	Completed	SW3015A	11/23/21 11:15	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 11/18/21 18:30, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI, Dissolved	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Method: SM3500-Cr B, Run Date: 11/18/21 17:55, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Metals

Method: E200.8, Run Date: 11/23/21 12:39, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.000300	0.002	0.000102	mg/L	2	7440-38-2	b
Chromium	0.0000980	0.005	0.0000386	mg/L	2	7440-47-3	b
Copper	Not detected	0.005	0.000150	mg/L	2	7440-50-8	
Lead	Not detected	0.003	0.0000760	mg/L	2	7439-92-1	
Selenium	Not detected	0.005	0.000838	mg/L	2	7782-49-2	
Zinc	0.00432	0.005	0.000292	mg/L	2	7440-66-6	b

Method: E200.8, Run Date: 11/23/21 12:41, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.000210	0.002	0.000102	mg/L	2	7440-38-2	b
Chromium, Dissolved	Not detected	0.005	0.0000386	mg/L	2	7440-47-3	
Copper, Dissolved	Not detected	0.005	0.000150	mg/L	2	7440-50-8	
Lead, Dissolved	Not detected	0.003	0.0000760	mg/L	2	7439-92-1	
Selenium, Dissolved	Not detected	0.005	0.000838	mg/L	2	7782-49-2	
Zinc, Dissolved	0.00300	0.005	0.000292	mg/L	2	7440-66-6	b

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 18:24, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	

b-Value detected less than reporting limit, but greater than MDL

Lab Sample ID: S30542.06 (continued)
Sample Tag: FB-1-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 18:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	

Lab Sample ID: S30542.06 (continued)
Sample Tag: FB-1-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 18:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		

Lab Sample ID: S30542.07
Sample Tag: Trip Blank-211118
Collected Date/Time: 11/18/2021 00:01
Matrix: Water
COC Reference:

Sample Containers

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

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	11/22/21 12:00	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 17:46, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	

Lab Sample ID: S30542.07 (continued)
Sample Tag: Trip Blank-211118

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 11/19/21 17:46, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Methylene chloride	0.22	5	0.10	ug/L	1	75-09-2	J
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		

J-Estimated value less than reporting limit, but greater than MDL

Merit Laboratories Login Checklist

Lab Set ID: S30542
Client: APPLIED (Applied Ecosystems)
Project: RACER Flint West #12990
Submitted: 11/18/2021 15:30 Login User: JRM

Attention: Rodney Abke
Address: Applied Ecosystems
G4300 S. Saginaw Street
Burton, MI 48529

Phone: 810-715-2525 FAX:
Email: rabke@appliedecosystems.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.6
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[X] Yes	[ ] No	[ ] N/A	Do sample have correct chemical preservation	
11.	[X] Yes	[ ] No	[ ] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[X] Yes	[ ] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[X] Yes	[ ] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] 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: S30542 Submitted: 11/18/2021 15:30

Client: APPLIED (Applied Ecosystems)

Project: RACER Flint West #12990

Initial Preservation Check: 11/18/2021 16:17 JRM

Preservation Recheck (E200.8): N/A

Attention: Rodney Abke
Address: Applied Ecosystems
G4300 S. Saginaw Street
Burton, MI 48529

Phone: 810-715-2525 FAX:
Email: rabke@appliedecosystems.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S30542.01	125ml Plastic HNO3	<2			
S30542.02	125ml Plastic HNO3	<2			
S30542.03	125ml Plastic HNO3	<2			
S30542.04	125ml Plastic HNO3	<2			
S30542.05	125ml Plastic HNO3	<2			
S30542.06	125ml Plastic HNO3	<2			

Merit Laboratories, Inc.

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

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Rodney Abke
COMPANY: Applied EcoSystems
ADDRESS: G-4300 South Saginaw Street
CITY: Burton STATE: MI ZIP CODE: 48529
PHONE NO.: 810-715-2525 FAX NO.: 810-715-2526 P.O. NO.: PO795930
E-MAIL ADDRESS: rabke@appliedecosystems.com QUOTE NO.:

INVOICE TO

CONTACT NAME: Monica Wallingford ☐ SAME
COMPANY: Revitalizing Auto Communities Environmental Response (RACER) Trust
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: 313.486.2978 E-MAIL ADDRESS: mwallingford@racertrust.org

PROJECT NO./NAME: RACER Flint West #12990
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Rodney Abke

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

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☒ OTHER report to MDLs

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	Metals, dissolved*	Metals, Total*	Special Instructions
30542.01	11-18-21	10:26	MW-115S-211118	GW	5		x	x					✓	✓	✓	* - Metals list incldues:
.02	11-18-21	9:06	MW-116S-211118	GW	5		x	x					✓	✓	✓	Ar, Cr-total, CR-Hex, Cu
.03	11-18-21	11:04	MW-117S-211118	GW	5		x	x					✓	✓	✓	Pb, Se, Zn
.04	11-18-21	--	DUP-1-211118	GW	5		x	x					✓	✓	✓	
.05	11-18-21	11:30	EB-1-211118	GW	4		x						✓	✓		report down to MCLs
.06	11-18-21	8:45	FB-1-211118	GW	5		x	x					✓	✓	✓	
.07	11-18-21	--	Trip Blank-211118	GW	1		x						✓			

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☑ Sampler	DATE 11-18-21	TIME 15:00
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 11/18/21	TIME 14:15
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 11/18/21	TIME 15:30
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 11/18/21	TIME 1530

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 4.6

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

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S30547.01(01)
Generated on 12/13/2021

Report to

Attention: Rodney Abke
Applied Ecosystems
G4300 S. Saginaw Street
Burton, MI 48529

Phone: 810-715-2525 FAX:
Email: rabke@appliedecosystems.com

Report produced by

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

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

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S30547.01-S30547.07
Project: RACER Flint West #12990
Collected Date(s): 11/18/2021
Submitted Date/Time: 11/18/2021 15:30
Sampled by: Rodney Abke
P.O. #: 795930

Table of Contents

Maya Murshak
Technical Director

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 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.

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

Method Summary

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

Parameter Summary

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

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S30547.01	MW-115S-211118	Groundwater	11/18/21 10:26
S30547.02	MW-116S-211118	Groundwater	11/18/21 09:06
S30547.03	MW-117S-211118	Groundwater	11/18/21 11:04
S30547.04	DUP-1-211118	Groundwater	11/18/21 00:01
S30547.05	EB-1-211118	Groundwater	11/18/21 11:30
S30547.06	Field Blank-1-211118	Water	11/18/21 08:45
S30547.07	Trip Blank-211118	Water	11/18/21 00:01

Analytical Laboratory Report

Lab Sample ID: S30547.01
Sample Tag: MW-115S-211118
Collected Date/Time: 11/18/2021 10:26
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.39/7.00/11	ASTMD7979-19M	11/30/21 13:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 12/01/21 00:13, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	41	10	ng/L	2.04	375-22-4	X
PFPeA*	Not detected	4.1	1.0	ng/L	2.04	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.04	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2.04	307-24-4	
PFBS*	2.3	2.0	1.4	ng/L	2.04	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.04	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.04	2706-91-4	
6:2 FTSA*	Not detected	4.1	2.0	ng/L	2.04	27619-97-2	
PFOA*	2.3	2.0	1.6	ng/L	2.04	335-67-1	
PFHxS*	2.9	2.0	1.6	ng/L	2.04	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2.04	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.04	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.04	375-95-1	
8:2 FTSA*	Not detected	4.1	1.0	ng/L	2.04	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.04	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.04	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.04	2355-31-9	
EtFOSAA*	2.6	4.1	2.0	ng/L	2.04	2991-50-6	J
PFOS*	27	2.0	2.0	ng/L	2.04	1763-23-1	
PFOS-LN*	18	2.0	2.0	ng/L	2.04	1763-23-1-LN	
PFOS-BR*	9.5	2.0	2.0	ng/L	2.04	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.04	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.04	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2.04	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.04	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2.04	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.04	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.04	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.04	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.04	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.04	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2.04	13252-13-6	

X-Elevated reporting limit due to matrix interference
J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S30547.02
Sample Tag: MW-116S-211118
Collected Date/Time: 11/18/2021 09:06
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.76/6.98/11	ASTMD7979-19M	11/30/21 13:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 12/01/21 00:52, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	57	9.5	ng/L	1.9	375-22-4	X
PFPeA*	Not detected	3.8	0.95	ng/L	1.9	2706-90-3	
4:2 FTSA*	Not detected	1.9	1.5	ng/L	1.9	757124-72-4	
PFHxA*	Not detected	1.9	1.3	ng/L	1.9	307-24-4	
PFBS*	Not detected	1.9	1.3	ng/L	1.9	375-73-5	
PFHpA*	Not detected	1.9	1.3	ng/L	1.9	375-85-9	
PFPeS*	Not detected	1.9	1.7	ng/L	1.9	2706-91-4	
6:2 FTSA*	Not detected	3.8	1.9	ng/L	1.9	27619-97-2	
PFOA*	2.0	1.9	1.5	ng/L	1.9	335-67-1	
PFHxS*	Not detected	1.9	1.5	ng/L	1.9	355-46-4	
PFHxS-LN*	Not detected	1.9	1.5	ng/L	1.9	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	1.5	ng/L	1.9	355-46-4-BR	
PFNA*	Not detected	1.9	1.7	ng/L	1.9	375-95-1	
8:2 FTSA*	Not detected	3.8	0.95	ng/L	1.9	39108-34-4	
PFHpS*	Not detected	1.9	1.9	ng/L	1.9	375-92-8	
PFDA*	Not detected	1.9	1.9	ng/L	1.9	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.9	2355-31-9	
EtFOSAA*	Not detected	3.8	1.9	ng/L	1.9	2991-50-6	
PFOS*	22	1.9	1.9	ng/L	1.9	1763-23-1	
PFOS-LN*	15	1.9	1.9	ng/L	1.9	1763-23-1-LN	
PFOS-BR*	7.1	1.9	1.9	ng/L	1.9	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.3	ng/L	1.9	2058-94-8	
PFNS*	Not detected	1.9	1.3	ng/L	1.9	68259-12-1	
PFDoDA*	Not detected	1.9	1.5	ng/L	1.9	307-55-1	
PFDS*	Not detected	1.9	1.3	ng/L	1.9	335-77-3	
PFTrDA*	Not detected	1.9	1.1	ng/L	1.9	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.9	754-91-6	
PFTeDA*	Not detected	3.8	1.7	ng/L	1.9	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.9	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.3	ng/L	1.9	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.9	919005-14-4	
HFPO-DA*	Not detected	9.5	1.9	ng/L	1.9	13252-13-6	

X-Elevated reporting limit due to matrix interference

Analytical Laboratory Report

Lab Sample ID: S30547.03
Sample Tag: MW-117S-211118
Collected Date/Time: 11/18/2021 11:04
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.62/6.95/11	ASTMD7979-19M	11/30/21 13:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 12/01/21 01:31, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.7	9.7	ng/L	1.94	375-22-4	
PFPeA*	Not detected	3.9	0.97	ng/L	1.94	2706-90-3	
4:2 FTSA*	Not detected	1.9	1.6	ng/L	1.94	757124-72-4	
PFHxA*	1.9	1.9	1.4	ng/L	1.94	307-24-4	
PFBS*	1.4	1.9	1.4	ng/L	1.94	375-73-5	J
PFHpA*	Not detected	1.9	1.4	ng/L	1.94	375-85-9	
PFPeS*	Not detected	1.9	1.7	ng/L	1.94	2706-91-4	
6:2 FTSA*	Not detected	3.9	1.9	ng/L	1.94	27619-97-2	
PFOA*	2.8	1.9	1.6	ng/L	1.94	335-67-1	
PFHxS*	Not detected	1.9	1.6	ng/L	1.94	355-46-4	
PFHxS-LN*	Not detected	1.9	1.6	ng/L	1.94	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	1.6	ng/L	1.94	355-46-4-BR	
PFNA*	Not detected	1.9	1.7	ng/L	1.94	375-95-1	
8:2 FTSA*	Not detected	3.9	0.97	ng/L	1.94	39108-34-4	
PFHpS*	Not detected	1.9	1.9	ng/L	1.94	375-92-8	
PFDA*	Not detected	1.9	1.9	ng/L	1.94	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.94	2355-31-9	
EtFOSAA*	Not detected	3.9	1.9	ng/L	1.94	2991-50-6	
PFOS*	3.1	1.9	1.9	ng/L	1.94	1763-23-1	
PFOS-LN*	Not detected	1.9	1.9	ng/L	1.94	1763-23-1-LN	
PFOS-BR*	Not detected	1.9	1.9	ng/L	1.94	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.4	ng/L	1.94	2058-94-8	
PFNS*	Not detected	1.9	1.4	ng/L	1.94	68259-12-1	
PFDoDA*	Not detected	1.9	1.6	ng/L	1.94	307-55-1	
PFDS*	Not detected	1.9	1.4	ng/L	1.94	335-77-3	
PFTrDA*	Not detected	1.9	1.2	ng/L	1.94	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.94	754-91-6	
PFTeDA*	Not detected	3.9	1.7	ng/L	1.94	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.94	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.4	ng/L	1.94	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.94	919005-14-4	
HFPO-DA*	Not detected	9.7	1.9	ng/L	1.94	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S30547.04
Sample Tag: DUP-1-211118
Collected Date/Time: 11/18/2021 00:01
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.49/6.99/11	ASTMD7979-19M	11/30/21 13:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 12/01/21 01:51, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	40	10	ng/L	2	375-22-4	X
PFPeA*	Not detected	4.0	1.0	ng/L	2	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2	2706-91-4	
6:2 FTSA*	Not detected	4.0	2.0	ng/L	2	27619-97-2	
PFOA*	1.8	2.0	1.6	ng/L	2	335-67-1	J
PFHxS*	Not detected	2.0	1.6	ng/L	2	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2	375-95-1	
8:2 FTSA*	Not detected	4.0	1.0	ng/L	2	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2	2991-50-6	
PFOS*	23	2.0	2.0	ng/L	2	1763-23-1	
PFOS-LN*	14	2.0	2.0	ng/L	2	1763-23-1-LN	
PFOS-BR*	8.1	2.0	2.0	ng/L	2	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2	13252-13-6	

X-Elevated reporting limit due to matrix interference
J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S30547.05
Sample Tag: EB-1-211118
Collected Date/Time: 11/18/2021 11:30
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.69/7.01/11	ASTMD7979-19M	11/30/21 13:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 12/01/21 02:10, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.7	9.7	ng/L	1.94	375-22-4	
PFPeA*	Not detected	3.9	0.97	ng/L	1.94	2706-90-3	
4:2 FTSA*	Not detected	1.9	1.6	ng/L	1.94	757124-72-4	
PFHxA*	Not detected	1.9	1.4	ng/L	1.94	307-24-4	
PFBS*	Not detected	1.9	1.4	ng/L	1.94	375-73-5	
PFHpA*	Not detected	1.9	1.4	ng/L	1.94	375-85-9	
PFPeS*	Not detected	1.9	1.7	ng/L	1.94	2706-91-4	
6:2 FTSA*	Not detected	3.9	1.9	ng/L	1.94	27619-97-2	
PFOA*	Not detected	1.9	1.6	ng/L	1.94	335-67-1	
PFHxS*	Not detected	1.9	1.6	ng/L	1.94	355-46-4	
PFHxS-LN*	Not detected	1.9	1.6	ng/L	1.94	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	1.6	ng/L	1.94	355-46-4-BR	
PFNA*	Not detected	1.9	1.7	ng/L	1.94	375-95-1	
8:2 FTSA*	Not detected	3.9	0.97	ng/L	1.94	39108-34-4	
PFHpS*	Not detected	1.9	1.9	ng/L	1.94	375-92-8	
PFDA*	Not detected	1.9	1.9	ng/L	1.94	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.94	2355-31-9	
EtFOSAA*	Not detected	3.9	1.9	ng/L	1.94	2991-50-6	
PFOS*	Not detected	1.9	1.9	ng/L	1.94	1763-23-1	
PFOS-LN*	Not detected	1.9	1.9	ng/L	1.94	1763-23-1-LN	
PFOS-BR*	Not detected	1.9	1.9	ng/L	1.94	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.4	ng/L	1.94	2058-94-8	
PFNS*	Not detected	1.9	1.4	ng/L	1.94	68259-12-1	
PFDoDA*	Not detected	1.9	1.6	ng/L	1.94	307-55-1	
PFDS*	Not detected	1.9	1.4	ng/L	1.94	335-77-3	
PFTrDA*	Not detected	1.9	1.2	ng/L	1.94	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.94	754-91-6	
PFTeDA*	Not detected	3.9	1.7	ng/L	1.94	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.94	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.4	ng/L	1.94	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.94	919005-14-4	
HFPO-DA*	Not detected	9.7	1.9	ng/L	1.94	13252-13-6	

Analytical Laboratory Report

Lab Sample ID: S30547.06
Sample Tag: Field Blank-1-211118
Collected Date/Time: 11/18/2021 08:45
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.07/7.04/8	ASTMD7979-19M	11/30/21 13:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 12/01/21 02:30, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10.0	10.0	ng/L	1.99	375-22-4	
PFPeA*	Not detected	4.0	1.00	ng/L	1.99	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.99	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	1.99	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.99	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.99	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.99	2706-91-4	
6:2 FTSA*	Not detected	4.0	2.0	ng/L	1.99	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	1.99	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	1.99	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.99	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.99	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.99	375-95-1	
8:2 FTSA*	Not detected	4.0	1.00	ng/L	1.99	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.99	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.99	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.99	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	1.99	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	1.99	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	1.99	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	2.0	ng/L	1.99	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.99	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.99	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	1.99	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.99	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	1.99	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.99	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	1.99	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.99	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.99	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.99	919005-14-4	
HFPO-DA*	Not detected	10.0	2.0	ng/L	1.99	13252-13-6	

Analytical Laboratory Report

Lab Sample ID: S30547.07
Sample Tag: Trip Blank-211118
Collected Date/Time: 11/18/2021 00:01
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.04/6.96/10	ASTMD7979-19M	11/30/21 13:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 12/01/21 02:49, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.9	9.9	ng/L	1.97	375-22-4	
PFPeA*	Not detected	3.9	0.99	ng/L	1.97	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.97	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	1.97	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.97	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.97	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.97	2706-91-4	
6:2 FTSA*	Not detected	3.9	2.0	ng/L	1.97	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	1.97	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	1.97	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.97	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.97	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.97	375-95-1	
8:2 FTSA*	Not detected	3.9	0.99	ng/L	1.97	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.97	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.97	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.97	2355-31-9	
EtFOSAA*	Not detected	3.9	2.0	ng/L	1.97	2991-50-6	
PFOS*	Not detected	2.0	1.9	ng/L	1.97	1763-23-1	
PFOS-LN*	Not detected	2.0	1.9	ng/L	1.97	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	1.9	ng/L	1.97	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.97	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.97	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	1.97	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.97	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	1.97	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.97	754-91-6	
PFTeDA*	Not detected	3.9	1.8	ng/L	1.97	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.97	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.97	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.97	919005-14-4	
HFPO-DA*	Not detected	9.9	2.0	ng/L	1.97	13252-13-6	

Merit Laboratories Login Checklist

Lab Set ID: S30547
Client: APPLIED (Applied Ecosystems)
Project: RACER Flint West #12990
Submitted: 11/18/2021 15:30 Login User: JRM

Attention: Rodney Abke
Address: Applied Ecosystems
G4300 S. Saginaw Street
Burton, MI 48529

Phone: 810-715-2525 FAX:
Email: rabke@appliedecosystems.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.6
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[X] Yes	[ ] No	[ ] N/A	Do sample have correct chemical preservation	
11.	[ ] Yes	[ ] No	[X] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] 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, Inc.

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

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Rodney Abke
COMPANY: Applied EcoSystems
ADDRESS: G-4300 South Saginaw Street
CITY: Burton | STATE: MI | ZIP CODE: 48529
PHONE NO.: 810-715-2525 | FAX NO.: 810-715-2526 | P.O. NO.: PO795930
E-MAIL ADDRESS: rabke@appliedecosystems.com | QUOTE NO.:

INVOICE TO

CONTACT NAME: Monica Wallingford ☐ SAME
COMPANY: Revitalizing Auto Communities Environmental Response (RACER) Trust
ADDRESS:
CITY: | STATE: | ZIP CODE:
PHONE NO.: 313.486.2978 | E-MAIL ADDRESS: mwallingford@racertrust.org

PROJECT NO./NAME: RACER Flint West #12990
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Rodney Abke

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

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☒ OTHER report to MDLs

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS/PFOS **	Special Instructions
30547.01	11-18-21	10:26	MW-115S-211118	GW	3	x							✓	**- 28 Compound List
.02	11-18-21	9:06	MW-116S-211118	GW	3	x							✓	
.03	11-18-21	11:04	MW-117S-211118	GW	3	x							✓	report down to MDLs
.04	11-18-21	--	DUP-1-211118	GW	3	x							✓	
.05	11-18-21	11:30	EB-1-211118	GW	3	x							✓	
.06	11-18-21	8:45	Field Blank-1-211118	GW	3	x							✓	
.07	1-18-21	--	Trip Blank-211118	GW	1	X							✓	

RELINQUISHED BY: SIGNATURE/ORGANIZATION (Sampler)		DATE: 11-18-21	TIME: 13:00
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE: 11/18/21	TIME: 14:15
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE: 11/18/21	TIME: 15:2
RECEIVED BY: SIGNATURE/ORGANIZATION	Johanna Yurney	DATE: 11/18/21	TIME: 1530

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: TEMP. ON ARRIVAL 4.6

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

Rev. 5.18.12

Quality Control Report

Report ID: QC-S30542-01
Generated on 11/29/2021

Report to

Attention: Rodney Abke
Applied Ecosystems
G4300 S. Saginaw Street
Burton, MI 48529

Phone: 810-715-2525 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): S30542.01-S30542.07
Project: RACER Flint West #12990
Submitted Date/Time: 11/18/2021 15:30
Sampled by: Rodney Abke
P.O. #: 795930

QC Report Sections

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: S30542.01
Sample Tag: MW-115S-211118
Collected Date/Time: 11/18/2021 10:26
Matrix: Groundwater
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:05	CHR211118-W1	CHR211118-W1	No	BLK/LCS/MS/DUP
Chromium VI	SM3500-Cr B	11/18/21 17:20	CHR211118-W1	CHR211118-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	11/23/21 12:45	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	11/23/21 12:45	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Copper	E200.8	11/23/21 12:45	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Lead	E200.8	11/23/21 12:45	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	11/23/21 12:45	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	11/23/21 12:45	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 19:02	211119A9	VF211119W2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S30542.02
Sample Tag: MW-116S-211118
Collected Date/Time: 11/18/2021 09:06
Matrix: Groundwater
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:10	CHR211118-W1	CHR211118-W1	No	BLK/LCS/MS/DUP
Chromium VI	SM3500-Cr B	11/18/21 17:30	CHR211118-W1	CHR211118-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	11/23/21 12:50	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	11/23/21 12:50	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Copper	E200.8	11/23/21 12:50	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Lead	E200.8	11/23/21 12:50	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	11/23/21 12:50	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	11/23/21 12:50	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 19:22	211119A9	VF211119W2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S30542.03
Sample Tag: MW-117S-211118
Collected Date/Time: 11/18/2021 11:04
Matrix: Groundwater
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:15	CHR211118-W1	CHR211118-W1	No	BLK/LCS/MS/DUP
Chromium VI	SM3500-Cr B	11/18/21 17:35	CHR211118-W1	CHR211118-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	11/23/21 12:55	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	11/23/21 12:55	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Copper	E200.8	11/23/21 12:55	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Lead	E200.8	11/23/21 12:55	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	11/23/21 12:55	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	11/23/21 12:55	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 19:41	211119A9	VF211119W2	Yes	BLK/LCS/LCSD

Lab Sample ID: S30542.04

Sample Tag: DUP-1-211118

Collected Date/Time: 11/18/2021 00:01

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:20	CHR211118-W1	CHR211118-W1	No	BLK/LCS/MS/DUP
Chromium VI	SM3500-Cr B	11/18/21 17:45	CHR211118-W1	CHR211118-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	11/23/21 13:10	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	11/23/21 13:10	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Copper	E200.8	11/23/21 13:10	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Lead	E200.8	11/23/21 13:10	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	11/23/21 13:10	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	11/23/21 13:10	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 20:00	211119A9	VF211119W2	Yes	BLK/LCS/LCSD

Lab Sample ID: S30542.05

Sample Tag: EB-1-211118

Collected Date/Time: 11/18/2021 11:30

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:25	CHR211118-W1	CHR211118-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	11/22/21 15:39	211122A9	VF211122W2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S30542.06
Sample Tag: FB-1-211118
Collected Date/Time: 11/18/2021 08:45
Matrix: Water
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:30	CHR211118-W1	CHR211118-W1	No	BLK/LCS/MS/DUP
Chromium VI	SM3500-Cr B	11/18/21 17:55	CHR211118-W1	CHR211118-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	11/23/21 12:39	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	11/23/21 12:39	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Copper	E200.8	11/23/21 12:39	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Lead	E200.8	11/23/21 12:39	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	11/23/21 12:39	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	11/23/21 12:39	MT4-21-1123A	MTD-112321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 18:24	211119A9	VF211119W2	Yes	BLK/LCS/LCSD

Lab Sample ID: S30542.07

Sample Tag: Trip Blank-211118

Collected Date/Time: 11/18/2021 00:01

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 17:46	211119A9	VF211119W2	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: CHR211118-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S30542.01	Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:05	CHR211118-W1
S30542.01	Chromium VI	SM3500-Cr B	11/18/21 17:20	CHR211118-W1
S30542.02	Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:10	CHR211118-W1
S30542.02	Chromium VI	SM3500-Cr B	11/18/21 17:30	CHR211118-W1
S30542.03	Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:15	CHR211118-W1
S30542.03	Chromium VI	SM3500-Cr B	11/18/21 17:35	CHR211118-W1
S30542.04	Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:20	CHR211118-W1
S30542.04	Chromium VI	SM3500-Cr B	11/18/21 17:45	CHR211118-W1
S30542.05	Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:25	CHR211118-W1
S30542.06	Chromium VI, Dissolved	SM3500-Cr B	11/18/21 18:30	CHR211118-W1
S30542.06	Chromium VI	SM3500-Cr B	11/18/21 17:55	CHR211118-W1

Metals, Prep Batch ID: MTD-112321-1

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S30542.01	Arsenic, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A
S30542.01	Arsenic	E200.8	11/23/21 12:45	MT4-21-1123A
S30542.01	Chromium, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A
S30542.01	Chromium	E200.8	11/23/21 12:45	MT4-21-1123A
S30542.01	Copper, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A
S30542.01	Copper	E200.8	11/23/21 12:45	MT4-21-1123A
S30542.01	Lead, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A
S30542.01	Lead	E200.8	11/23/21 12:45	MT4-21-1123A
S30542.01	Selenium, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A
S30542.01	Selenium	E200.8	11/23/21 12:45	MT4-21-1123A
S30542.01	Zinc, Dissolved	E200.8	11/23/21 12:47	MT4-21-1123A
S30542.01	Zinc	E200.8	11/23/21 12:45	MT4-21-1123A
S30542.02	Arsenic, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A
S30542.02	Arsenic	E200.8	11/23/21 12:50	MT4-21-1123A
S30542.02	Chromium, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A
S30542.02	Chromium	E200.8	11/23/21 12:50	MT4-21-1123A
S30542.02	Copper, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A
S30542.02	Copper	E200.8	11/23/21 12:50	MT4-21-1123A
S30542.02	Lead, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A
S30542.02	Lead	E200.8	11/23/21 12:50	MT4-21-1123A
S30542.02	Selenium, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A
S30542.02	Selenium	E200.8	11/23/21 12:50	MT4-21-1123A
S30542.02	Zinc, Dissolved	E200.8	11/23/21 12:53	MT4-21-1123A
S30542.02	Zinc	E200.8	11/23/21 12:50	MT4-21-1123A
S30542.03	Arsenic, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A
S30542.03	Arsenic	E200.8	11/23/21 12:55	MT4-21-1123A
S30542.03	Chromium, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A
S30542.03	Chromium	E200.8	11/23/21 12:55	MT4-21-1123A
S30542.03	Copper, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A
S30542.03	Copper	E200.8	11/23/21 12:55	MT4-21-1123A
S30542.03	Lead, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A
S30542.03	Lead	E200.8	11/23/21 12:55	MT4-21-1123A
S30542.03	Selenium, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A
S30542.03	Selenium	E200.8	11/23/21 12:55	MT4-21-1123A
S30542.03	Zinc, Dissolved	E200.8	11/23/21 12:58	MT4-21-1123A

Metals, Prep Batch ID: MTD-112321-1 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S30542.03	Zinc	E200.8	11/23/21 12:55	MT4-21-1123A
S30542.04	Arsenic, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A
S30542.04	Arsenic	E200.8	11/23/21 13:10	MT4-21-1123A
S30542.04	Chromium, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A
S30542.04	Chromium	E200.8	11/23/21 13:10	MT4-21-1123A
S30542.04	Copper, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A
S30542.04	Copper	E200.8	11/23/21 13:10	MT4-21-1123A
S30542.04	Lead, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A
S30542.04	Lead	E200.8	11/23/21 13:10	MT4-21-1123A
S30542.04	Selenium, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A
S30542.04	Selenium	E200.8	11/23/21 13:10	MT4-21-1123A
S30542.04	Zinc, Dissolved	E200.8	11/23/21 13:13	MT4-21-1123A
S30542.04	Zinc	E200.8	11/23/21 13:10	MT4-21-1123A
S30542.05	Arsenic, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A
S30542.05	Chromium, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A
S30542.05	Copper, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A
S30542.05	Lead, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A
S30542.05	Selenium, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A
S30542.05	Zinc, Dissolved	E200.8	11/23/21 12:38	MT4-21-1123A
S30542.06	Arsenic, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A
S30542.06	Arsenic	E200.8	11/23/21 12:39	MT4-21-1123A
S30542.06	Chromium, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A
S30542.06	Chromium	E200.8	11/23/21 12:39	MT4-21-1123A
S30542.06	Copper, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A
S30542.06	Copper	E200.8	11/23/21 12:39	MT4-21-1123A
S30542.06	Lead, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A
S30542.06	Lead	E200.8	11/23/21 12:39	MT4-21-1123A
S30542.06	Selenium, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A
S30542.06	Selenium	E200.8	11/23/21 12:39	MT4-21-1123A
S30542.06	Zinc, Dissolved	E200.8	11/23/21 12:41	MT4-21-1123A
S30542.06	Zinc	E200.8	11/23/21 12:39	MT4-21-1123A

Organics - Volatiles, Prep Batch ID: VF211119W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S30542.01	Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 19:02	211119A9
S30542.02	Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 19:22	211119A9
S30542.03	Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 19:41	211119A9
S30542.04	Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 20:00	211119A9
S30542.06	Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 18:24	211119A9
S30542.07	Volatile Organics - DEQ List	SW5030C/8260C	11/19/21 17:46	211119A9

Organics - Volatiles, Prep Batch ID: VF211122W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S30542.05	Volatile Organics - DEQ List	SW5030C/8260C	11/22/21 15:39	211122A9

QC Report - Surrogates per Lab Sample

Lab Sample ID: S30542.01

Sample Tag: MW-115S-211118

Collected Date/Time: 11/18/2021 10:26

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 211119A9, Run Date: 11/19/2021 19:02, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**103.6**	80.0	124.0
1,2-Dichloroethane-D4		**104.6**	72.0	125.0
Toluene-D8		**101.5**	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S30542.02

Sample Tag: MW-116S-211118

Collected Date/Time: 11/18/2021 09:06

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 211119A9, Run Date: 11/19/2021 19:22, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**103.9**	80.0	124.0
1,2-Dichloroethane-D4		**108.3**	72.0	125.0
Toluene-D8		**101.0**	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S30542.03

Sample Tag: MW-117S-211118

Collected Date/Time: 11/18/2021 11:04

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 211119A9, Run Date: 11/19/2021 19:41, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**96.3**	80.0	124.0
1,2-Dichloroethane-D4		**111.7**	72.0	125.0
Toluene-D8		**102.9**	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S30542.04

Sample Tag: DUP-1-211118

Collected Date/Time: 11/18/2021 00:01

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 211119A9, Run Date: 11/19/2021 20:00, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**103.5**	80.0	124.0
1,2-Dichloroethane-D4		**102.7**	72.0	125.0
Toluene-D8		**101.0**	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S30542.05

Sample Tag: EB-1-211118

Collected Date/Time: 11/18/2021 11:30

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 211122A9, Run Date: 11/22/2021 15:39, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**104.3**	80.0	124.0
1,2-Dichloroethane-D4		**110.6**	72.0	125.0
Toluene-D8		**103.1**	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S30542.06

Sample Tag: FB-1-211118

Collected Date/Time: 11/18/2021 08:45

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 211119A9, Run Date: 11/19/2021 18:24, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**103.7**	80.0	124.0
1,2-Dichloroethane-D4		**105.7**	72.0	125.0
Toluene-D8		**99.0**	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S30542.07

Sample Tag: Trip Blank-211118

Collected Date/Time: 11/18/2021 00:01

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 211119A9, Run Date: 11/19/2021 17:46, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**103.3**	80.0	124.0
1,2-Dichloroethane-D4		**105.2**	72.0	125.0
Toluene-D8		**101.1**	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF211119W2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 211119A9.BLKW19A

Run in Batch: 211119A9, Run Date: 11/19/2021 16:49, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.1**	80.0	124.0
1,2-Dichloroethane-D4		**104.4**	72.0	125.0
Toluene-D8		**99.5**	89.0	112.0

Blank (BLK)

Lab Sample ID: 211119B9.BLKW19A

Run in Batch: 211119B9, Run Date: 11/19/2021 16:49, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
Toluene-D8		**99.5**	86.0	118.0

Laboratory Control Sample (LCS)

Lab Sample ID: 211119A9.LCSW19A

Run in Batch: 211119A9, Run Date: 11/19/2021 15:33, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.5**	80.0	124.0
1,2-Dichloroethane-D4		**101.9**	72.0	125.0
Toluene-D8		**100.8**	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 211119B9.LCSG19A

Run in Batch: 211119B9, Run Date: 11/19/2021 16:11, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
Toluene-D8		**101.8**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 211119A9.LCSDW19A, Parent Sample ID: 211119A9.LCSW19A

Run in Batch: 211119A9, Run Date: 11/19/2021 15:52, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.6**	80.0	124.0
1,2-Dichloroethane-D4		**104.1**	72.0	125.0
Toluene-D8		**101.6**	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 211119B9.LCSDG19A, Parent Sample ID: 211119B9.LCSG19A

Run in Batch: 211119B9, Run Date: 11/19/2021 16:30, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
Toluene-D8		**101.3**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF211122W2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 211122A9.BLKW22A

Run in Batch: 211122A9, Run Date: 11/22/2021 13:26, Prep Date: 11/22/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**103.3**	80.0	124.0
1,2-Dichloroethane-D4		**109.5**	72.0	125.0
Toluene-D8		**101.5**	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 211122A9.LCSW22A

Run in Batch: 211122A9, Run Date: 11/22/2021 12:09, Prep Date: 11/22/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**103.5**	80.0	124.0
1,2-Dichloroethane-D4		**102.4**	72.0	125.0
Toluene-D8		**100.6**	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 211122A9.LCSDW22A, Parent Sample ID: 211122A9.LCSW22A

Run in Batch: 211122A9, Run Date: 11/22/2021 12:28, Prep Date: 11/22/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**102.9**	80.0	124.0
1,2-Dichloroethane-D4		**98.4**	72.0	125.0
Toluene-D8		**102.2**	89.0	112.0

Inorganics, Prep Batch ID: CHR211118-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: CHR211118-W1.LRB1

Run in Batch: CHR211118-W1, Run Date: 11/18/2021 17:00, Prep Date: 11/18/2021, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chromium VI		ND	0.01	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CHR211118-W1.LCS1

Run in Batch: CHR211118-W1, Run Date: 11/18/2021 17:15, Prep Date: 11/18/2021, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium VI		107	90	110

Matrix Spike (MS)

Lab Sample ID: CHR211118-W1.MS1, Parent Sample ID: S30542.03

Run in Batch: CHR211118-W1, Run Date: 11/18/2021 17:40, Prep Date: 11/18/2021, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium VI		106	80	120

Duplicate (DUP)

Lab Sample ID: CHR211118-W1.DP1, Parent Sample ID: S30542.01

Run in Batch: CHR211118-W1, Run Date: 11/18/2021 17:25, Prep Date: 11/18/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	RPD	RPD CL
Chromium VI		<1	15

Metals, Prep Batch ID: MTD-112321-1

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: MT4-21-1123A.020.LRB

Run in Batch: MT4-21-1123A, Run Date: 11/23/2021 12:36, Prep Date: 11/23/2021, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		ND	0.0004	mg/L
Chromium		ND	0.001	mg/L
Copper		ND	0.001	mg/L
Lead		ND	0.0006	mg/L
Selenium		ND	0.001	mg/L
Zinc		ND	0.001	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-21-1123A.018.LCS

Run in Batch: MT4-21-1123A, Run Date: 11/23/2021 12:31, Prep Date: 11/23/2021, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		99	85	115
Chromium		99	85	115
Copper		100	85	115
Lead		97	85	115
Selenium		104	85	115
Zinc		100	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-21-1123A.038.MS, Parent Sample ID: S30576.02

Run in Batch: MT4-21-1123A, Run Date: 11/23/2021 13:02, Prep Date: 11/23/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		103	75	125
Chromium		107	75	125
Copper		103	75	125
Lead		96	75	125
Selenium		108	75	125
Zinc		100	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-21-1123A.056.MS, Parent Sample ID: S30255.01

Run in Batch: MT4-21-1123A, Run Date: 11/23/2021 13:30, Prep Date: 11/23/2021, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL
Arsenic		105	75	125
Chromium		104	75	125
Copper		106	75	125
Lead		95	75	125
Selenium		109	75	125
Zinc		99	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-21-1123A.039.MSD, Parent Sample ID: MT4-21-1123A.038.MS

Run in Batch: MT4-21-1123A, Run Date: 11/23/2021 13:03, Prep Date: 11/23/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		107	75	125	4	20
Chromium		108	75	125	1	20

Metals, Prep Batch ID: MTD-112321-1 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-21-1123A.039.MSD, Parent Sample ID: MT4-21-1123A.038.MS

Run in Batch: MT4-21-1123A, Run Date: 11/23/2021 13:03, Prep Date: 11/23/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Copper		104	75	125	1	20
Lead		98	75	125	1	20
Selenium		108	75	125	0	20
Zinc		103	75	125	1	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-21-1123A.057.MSD, Parent Sample ID: MT4-21-1123A.056.MS

Run in Batch: MT4-21-1123A, Run Date: 11/23/2021 13:32, Prep Date: 11/23/2021, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		108	75	125	3	20
Chromium		109	75	125	5	20
Copper		109	75	125	3	20
Lead		96	75	125	1	20
Selenium		102	75	125	7	20
Zinc		100	75	125	1	20

Organics - Volatiles, Prep Batch ID: VF211119W2

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

Blank (BLK)

Lab Sample ID: 211119A9.BLKW19A

Run in Batch: 211119A9, Run Date: 11/19/2021 16:49, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acetone		ND	10.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Benzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
tert-Butylbenzene		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
1,1-Dichloroethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2-Dibromoethane		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
cis-1,3-Dichloropropene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Diethyl ether		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
2-Hexanone		ND	10.00	ug/l
Hexachloroethane		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Methyl iodide		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l

Organics - Volatiles, Prep Batch ID: VF211119W2 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 211119A9.BLKW19A

Run in Batch: 211119A9, Run Date: 11/19/2021 16:49, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Naphthalene		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	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

Laboratory Control Sample (LCS)

Lab Sample ID: 211119A9.LCSW19A

Run in Batch: 211119A9, Run Date: 11/19/2021 15:33, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		110.8	29.9	161.5
Acrylonitrile		114.8	69.9	128.9
2-Butanone (MEK)		107.8	44.0	134.4
Benzene		89.0	79.9	124.9
n-Butylbenzene		103.1	80.0	133.3
Bromobenzene		103.4	78.7	124.6
Bromochloromethane		118.8	78.2	120.8
Bromodichloromethane		95.2	80.4	128.2
Bromoform		107.2	69.4	128.0
Bromomethane		150.9	56.8	151.3
sec-Butylbenzene		104.2	77.4	129.8
tert-Butylbenzene		106.1	80.7	128.9
Carbon disulfide		126.3	63.8	137.4
Carbon tetrachloride		99.1	72.6	133.0
Chlorobenzene		100.0	79.2	122.7
Chloroethane	*	150.0	53.4	149.4
Chloroform		114.3	78.4	124.0
Chloromethane		135.6	23.8	166.5
1,1-Dichloroethane		123.5	71.5	126.2
1,1-Dichloroethene		123.0	69.6	139.4

Organics - Volatiles, Prep Batch ID: VF211119W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 211119A9.LCSW19A

Run in Batch: 211119A9, Run Date: 11/19/2021 15:33, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2-Dibromo-3-chloropropane		102.9	21.2	189.4
1,2-Dibromoethane		100.2	70.3	133.7
1,2-Dichlorobenzene		105.8	10.0	166.2
1,2-Dichloroethane		94.7	76.0	126.3
1,2-Dichloropropane		87.1	78.6	126.4
1,3-Dichlorobenzene		108.1	77.0	131.3
1,4-Dichlorobenzene		106.6	20.7	137.7
cis-1,2-Dichloroethene		121.4	76.6	122.1
cis-1,3-Dichloropropene		92.9	79.8	129.9
Dibromochloromethane		106.9	74.6	127.2
Dibromomethane		97.1	76.9	122.1
Dichlorodifluoromethane		136.8	10.0	222.8
Diethyl ether	*	121.7	67.4	121.2
trans-1,2-Dichloroethene		121.7	73.6	129.3
trans-1,3-Dichloropropene		95.9	74.0	131.3
trans-1,4-Dichloro-2-butene		105.6	68.6	135.4
Ethylbenzene		99.9	79.5	129.1
2-Hexanone		80.1	55.4	136.9
Hexachloroethane		121.4	23.8	138.1
p-Isopropyltoluene		107.6	79.8	137.5
Isopropylbenzene		102.4	74.4	121.5
2-Methylnaphthalene		95.6	25.5	165.5
4-Methyl-2-pentanone (MIBK)		83.4	71.6	125.2
tert-Methyl butyl ether (MTBE)	*	125.4	73.2	122.4
Methyl iodide	*	121.6	68.8	116.4
Methylene chloride		120.4	73.3	121.1
Naphthalene		95.8	32.9	135.8
n-Propylbenzene		100.0	82.0	130.7
Styrene		102.4	69.5	126.7
1,1,1,2-Tetrachloroethane		105.8	80.3	128.2
1,1,1-Trichloroethane		92.3	79.4	130.9
1,1,2,2-Tetrachloroethane		93.4	79.8	126.3
1,1,2-Trichloroethane		88.3	78.7	123.1
1,2,3-Trichlorobenzene		101.5	75.4	131.4
1,2,3-Trichloropropane		99.8	78.3	138.8
1,2,3-Trimethylbenzene		109.1	76.3	124.2
1,2,4-Trichlorobenzene		103.8	27.4	143.4
1,2,4-Trimethylbenzene		102.3	81.4	130.8
1,3,5-Trimethylbenzene		103.2	81.3	128.9
Tetrachloroethene		97.3	74.5	124.5
Tetrahydrofuran		104.3	59.0	117.9
Toluene		91.0	79.8	124.5
Trichloroethene		93.0	79.7	124.2
Trichlorofluoromethane		136.0	59.7	151.8
Vinyl chloride	*	151.0	43.5	149.1
o-Xylene		102.6	80.2	131.0

Organics - Volatiles, Prep Batch ID: VF211119W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 211119A9.LCSW19A

Run in Batch: 211119A9, Run Date: 11/19/2021 15:33, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		100.3	79.4	132.2

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 211119A9.LCSDW19A, Parent Sample ID: 211119A9.LCSW19A

Run in Batch: 211119A9, Run Date: 11/19/2021 15:52, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		111.0	29.9	161.5	0.2	30.0
Acrylonitrile	*	76.8	69.9	128.9	39.7	30.0
2-Butanone (MEK)	*	77.3	44.0	134.4	32.9	30.0
Benzene		88.9	79.9	124.9	0.1	30.0
n-Butylbenzene		102.1	80.0	133.3	1.1	30.0
Bromobenzene		103.4	78.7	124.6	0.1	30.0
Bromochloromethane		90.6	78.2	120.8	26.9	30.0
Bromodichloromethane		94.1	80.4	128.2	1.1	30.0
Bromoform		108.9	69.4	128.0	1.5	30.0
Bromomethane		143.9	56.8	151.3	4.7	30.0
sec-Butylbenzene		102.4	77.4	129.8	1.7	30.0
tert-Butylbenzene		103.7	80.7	128.9	2.2	30.0
Carbon disulfide		100.8	63.8	137.4	22.5	30.0
Carbon tetrachloride		100.7	72.6	133.0	1.6	30.0
Chlorobenzene		98.9	79.2	122.7	1.1	30.0
Chloroethane		143.5	53.4	149.4	4.4	30.0
Chloroform		87.6	78.4	124.0	26.5	30.0
Chloromethane		125.0	23.8	166.5	8.1	30.0
1,1-Dichloroethane	*	83.6	71.5	126.2	38.6	30.0
1,1-Dichloroethene		116.8	69.6	139.4	5.1	30.0
1,2-Dibromo-3-chloropropane		100.9	21.2	189.4	2.0	30.0
1,2-Dibromoethane		100.8	70.3	133.7	0.6	30.0
1,2-Dichlorobenzene		103.9	10.0	166.2	1.8	30.0
1,2-Dichloroethane		94.8	76.0	126.3	0.1	30.0
1,2-Dichloropropane		87.4	78.6	126.4	0.3	30.0
1,3-Dichlorobenzene		105.7	77.0	131.3	2.3	30.0
1,4-Dichlorobenzene		105.6	20.7	137.7	1.0	30.0
cis-1,2-Dichloroethene	*	86.2	76.6	122.1	33.9	30.0
cis-1,3-Dichloropropene		92.3	79.8	129.9	0.6	30.0
Dibromochloromethane		106.4	74.6	127.2	0.5	30.0
Dibromomethane		97.4	76.9	122.1	0.3	30.0
Dichlorodifluoromethane		129.0	10.0	222.8	5.9	30.0
Diethyl ether		118.9	67.4	121.2	2.3	30.0
trans-1,2-Dichloroethene	*	84.2	73.6	129.3	36.5	30.0
trans-1,3-Dichloropropene		95.9	74.0	131.3	0.1	30.0
trans-1,4-Dichloro-2-butene		104.3	68.6	135.4	1.3	30.0
Ethylbenzene		97.6	79.5	129.1	2.3	30.0
2-Hexanone		82.1	55.4	136.9	2.5	30.0
Hexachloroethane		119.9	23.8	138.1	1.2	30.0
p-Isopropyltoluene		105.5	79.8	137.5	2.0	30.0

Organics - Volatiles, Prep Batch ID: VF211119W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 211119A9.LCSDW19A, Parent Sample ID: 211119A9.LCSW19A

Run in Batch: 211119A9, Run Date: 11/19/2021 15:52, Prep Date: 11/19/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isopropylbenzene		101.4	74.4	121.5	1.0	30.0
2-Methylnaphthalene		103.8	25.5	165.5	8.2	30.0
4-Methyl-2-pentanone (MIBK)		81.6	71.6	125.2	2.2	30.0
tert-Methyl butyl ether (MTBE)	*	89.6	73.2	122.4	33.2	30.0
Methyl iodide		114.8	68.8	116.4	5.7	30.0
Methylene chloride	*	81.3	73.3	121.1	38.8	30.0
Naphthalene		96.5	32.9	135.8	0.7	30.0
n-Propylbenzene		98.7	82.0	130.7	1.3	30.0
Styrene		100.4	69.5	126.7	2.0	30.0
1,1,1,2-Tetrachloroethane		103.3	80.3	128.2	2.4	30.0
1,1,1-Trichloroethane		92.2	79.4	130.9	0.1	30.0
1,1,2,2-Tetrachloroethane		93.1	79.8	126.3	0.4	30.0
1,1,2-Trichloroethane		89.6	78.7	123.1	1.5	30.0
1,2,3-Trichlorobenzene		103.4	75.4	131.4	1.9	30.0
1,2,3-Trichloropropane		99.8	78.3	138.8	0.1	30.0
1,2,3-Trimethylbenzene		106.2	76.3	124.2	2.6	30.0
1,2,4-Trichlorobenzene		104.0	27.4	143.4	0.3	30.0
1,2,4-Trimethylbenzene		101.3	81.4	130.8	1.0	30.0
1,3,5-Trimethylbenzene		101.9	81.3	128.9	1.2	30.0
Tetrachloroethene		97.9	74.5	124.5	0.6	30.0
Tetrahydrofuran	*	74.3	59.0	117.9	33.6	30.0
Toluene		91.2	79.8	124.5	0.3	30.0
Trichloroethene		92.4	79.7	124.2	0.6	30.0
Trichlorofluoromethane		130.7	59.7	151.8	4.0	30.0
Vinyl chloride		144.7	43.5	149.1	4.2	30.0
o-Xylene		102.2	80.2	131.0	0.4	30.0
p,m-Xylene		99.1	79.4	132.2	1.2	30.0

Organics - Volatiles, Prep Batch ID: VF211122W2

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

Blank (BLK)

Lab Sample ID: 211122A9.BLKW22A

Run in Batch: 211122A9, Run Date: 11/22/2021 13:26, Prep Date: 11/22/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acetone		ND	10.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Benzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
tert-Butylbenzene		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
1,1-Dichloroethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2-Dibromoethane		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
cis-1,3-Dichloropropene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Diethyl ether		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
2-Hexanone		ND	10.00	ug/l
Hexachloroethane		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Methyl iodide		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l

Organics - Volatiles, Prep Batch ID: VF211122W2 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 211122A9.BLKW22A

Run in Batch: 211122A9, Run Date: 11/22/2021 13:26, Prep Date: 11/22/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Naphthalene		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	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

Laboratory Control Sample (LCS)

Lab Sample ID: 211122A9.LCSW22A

Run in Batch: 211122A9, Run Date: 11/22/2021 12:09, Prep Date: 11/22/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		76.1	29.9	161.5
Acrylonitrile		77.8	69.9	128.9
2-Butanone (MEK)		79.8	44.0	134.4
Benzene		90.1	79.9	124.9
n-Butylbenzene		104.4	80.0	133.3
Bromobenzene		105.4	78.7	124.6
Bromochloromethane		89.7	78.2	120.8
Bromodichloromethane		95.3	80.4	128.2
Bromoform		109.5	69.4	128.0
Bromomethane		136.0	56.8	151.3
sec-Butylbenzene		87.9	77.4	129.8
tert-Butylbenzene		103.8	80.7	128.9
Carbon disulfide		82.2	63.8	137.4
Carbon tetrachloride		94.9	72.6	133.0
Chlorobenzene		100.1	79.2	122.7
Chloroethane		129.9	53.4	149.4
Chloroform		88.2	78.4	124.0
Chloromethane		121.8	23.8	166.5
1,1-Dichloroethane		84.9	71.5	126.2
1,1-Dichloroethene		80.7	69.6	139.4

Organics - Volatiles, Prep Batch ID: VF211122W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 211122A9.LCSW22A

Run in Batch: 211122A9, Run Date: 11/22/2021 12:09, Prep Date: 11/22/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2-Dibromo-3-chloropropane		92.3	21.2	189.4
1,2-Dibromoethane		101.6	70.3	133.7
1,2-Dichlorobenzene		110.1	10.0	166.2
1,2-Dichloroethane		96.6	76.0	126.3
1,2-Dichloropropane		87.6	78.6	126.4
1,3-Dichlorobenzene		91.8	77.0	131.3
1,4-Dichlorobenzene		110.5	20.7	137.7
cis-1,2-Dichloroethene		87.3	76.6	122.1
cis-1,3-Dichloropropene		94.6	79.8	129.9
Dibromochloromethane		108.0	74.6	127.2
Dibromomethane		97.1	76.9	122.1
Dichlorodifluoromethane		119.4	10.0	222.8
Diethyl ether		82.9	67.4	121.2
trans-1,2-Dichloroethene		83.8	73.6	129.3
trans-1,3-Dichloropropene		97.6	74.0	131.3
trans-1,4-Dichloro-2-butene		115.0	68.6	135.4
Ethylbenzene		98.8	79.5	129.1
2-Hexanone		89.5	55.4	136.9
Hexachloroethane		104.1	23.8	138.1
p-Isopropyltoluene		90.8	79.8	137.5
Isopropylbenzene		100.7	74.4	121.5
2-Methylnaphthalene		99.1	25.5	165.5
4-Methyl-2-pentanone (MIBK)		89.0	71.6	125.2
tert-Methyl butyl ether (MTBE)		92.0	73.2	122.4
Methyl iodide		88.5	68.8	116.4
Methylene chloride		81.6	73.3	121.1
Naphthalene		86.5	32.9	135.8
n-Propylbenzene		98.6	82.0	130.7
Styrene		102.0	69.5	126.7
1,1,1,2-Tetrachloroethane		105.4	80.3	128.2
1,1,1-Trichloroethane		88.3	79.4	130.9
1,1,2,2-Tetrachloroethane		95.3	79.8	126.3
1,1,2-Trichloroethane		89.5	78.7	123.1
1,2,3-Trichlorobenzene		91.2	75.4	131.4
1,2,3-Trichloropropane		102.5	78.3	138.8
1,2,3-Trimethylbenzene		109.4	76.3	124.2
1,2,4-Trichlorobenzene		92.9	27.4	143.4
1,2,4-Trimethylbenzene		102.4	81.4	130.8
1,3,5-Trimethylbenzene		102.3	81.3	128.9
Tetrachloroethene		94.6	74.5	124.5
Tetrahydrofuran		74.8	59.0	117.9
Toluene		90.5	79.8	124.5
Trichloroethene		91.3	79.7	124.2
Trichlorofluoromethane		111.9	59.7	151.8
Vinyl chloride		131.0	43.5	149.1
o-Xylene		102.6	80.2	131.0

Organics - Volatiles, Prep Batch ID: VF211122W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 211122A9.LCSW22A

Run in Batch: 211122A9, Run Date: 11/22/2021 12:09, Prep Date: 11/22/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		100.3	79.4	132.2

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 211122A9.LCSDW22A, Parent Sample ID: 211122A9.LCSW22A

Run in Batch: 211122A9, Run Date: 11/22/2021 12:28, Prep Date: 11/22/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		75.5	29.9	161.5	0.8	30.0
Acrylonitrile		76.2	69.9	128.9	2.1	30.0
2-Butanone (MEK)		77.6	44.0	134.4	2.8	30.0
Benzene		85.6	79.9	124.9	5.1	30.0
n-Butylbenzene		100.5	80.0	133.3	3.8	30.0
Bromobenzene		102.1	78.7	124.6	3.1	30.0
Bromochloromethane		87.0	78.2	120.8	3.1	30.0
Bromodichloromethane		93.4	80.4	128.2	2.0	30.0
Bromoform		109.3	69.4	128.0	0.2	30.0
Bromomethane		122.9	56.8	151.3	10.1	30.0
sec-Butylbenzene		98.3	77.4	129.8	11.2	30.0
tert-Butylbenzene		99.5	80.7	128.9	4.2	30.0
Carbon disulfide		76.5	63.8	137.4	7.2	30.0
Carbon tetrachloride		92.0	72.6	133.0	3.1	30.0
Chlorobenzene		97.7	79.2	122.7	2.4	30.0
Chloroethane		122.1	53.4	149.4	6.2	30.0
Chloroform		86.5	78.4	124.0	1.9	30.0
Chloromethane		106.8	23.8	166.5	13.2	30.0
1,1-Dichloroethane		81.0	71.5	126.2	4.7	30.0
1,1-Dichloroethene		77.2	69.6	139.4	4.5	30.0
1,2-Dibromo-3-chloropropane		105.7	21.2	189.4	13.5	30.0
1,2-Dibromoethane		99.0	70.3	133.7	2.5	30.0
1,2-Dichlorobenzene		103.8	10.0	166.2	5.9	30.0
1,2-Dichloroethane		94.1	76.0	126.3	2.6	30.0
1,2-Dichloropropane		86.2	78.6	126.4	1.7	30.0
1,3-Dichlorobenzene		106.0	77.0	131.3	14.4	30.0
1,4-Dichlorobenzene		104.8	20.7	137.7	5.3	30.0
cis-1,2-Dichloroethene		83.8	76.6	122.1	4.1	30.0
cis-1,3-Dichloropropene		92.1	79.8	129.9	2.7	30.0
Dibromochloromethane		105.5	74.6	127.2	2.4	30.0
Dibromomethane		95.6	76.9	122.1	1.6	30.0
Dichlorodifluoromethane		94.0	10.0	222.8	23.8	30.0
Diethyl ether		81.1	67.4	121.2	2.1	30.0
trans-1,2-Dichloroethene		80.5	73.6	129.3	4.0	30.0
trans-1,3-Dichloropropene		95.4	74.0	131.3	2.3	30.0
trans-1,4-Dichloro-2-butene		111.1	68.6	135.4	3.4	30.0
Ethylbenzene		94.9	79.5	129.1	4.0	30.0
2-Hexanone		84.4	55.4	136.9	5.9	30.0
Hexachloroethane		117.3	23.8	138.1	11.9	30.0
p-Isopropyltoluene		102.1	79.8	137.5	11.8	30.0

Organics - Volatiles, Prep Batch ID: VF211122W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 211122A9.LCSDW22A, Parent Sample ID: 211122A9.LCSW22A

Run in Batch: 211122A9, Run Date: 11/22/2021 12:28, Prep Date: 11/22/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isopropylbenzene		96.5	74.4	121.5	4.2	30.0
2-Methylnaphthalene		108.3	25.5	165.5	8.8	30.0
4-Methyl-2-pentanone (MIBK)		87.0	71.6	125.2	2.3	30.0
tert-Methyl butyl ether (MTBE)		89.8	73.2	122.4	2.4	30.0
Methyl iodide		85.4	68.8	116.4	3.5	30.0
Methylene chloride		79.7	73.3	121.1	2.4	30.0
Naphthalene	*	119.4	32.9	135.8	31.9	30.0
n-Propylbenzene		95.6	82.0	130.7	3.0	30.0
Styrene		99.9	69.5	126.7	2.1	30.0
1,1,1,2-Tetrachloroethane		103.1	80.3	128.2	2.2	30.0
1,1,1-Trichloroethane		85.4	79.4	130.9	3.3	30.0
1,1,2,2-Tetrachloroethane		93.2	79.8	126.3	2.2	30.0
1,1,2-Trichloroethane		89.4	78.7	123.1	0.1	30.0
1,2,3-Trichlorobenzene		122.5	75.4	131.4	29.3	30.0
1,2,3-Trichloropropane		101.0	78.3	138.8	1.4	30.0
1,2,3-Trimethylbenzene		106.9	76.3	124.2	2.3	30.0
1,2,4-Trichlorobenzene		104.3	27.4	143.4	11.5	30.0
1,2,4-Trimethylbenzene		98.2	81.4	130.8	4.2	30.0
1,3,5-Trimethylbenzene		99.7	81.3	128.9	2.6	30.0
Tetrachloroethene		90.0	74.5	124.5	4.9	30.0
Tetrahydrofuran		75.1	59.0	117.9	0.3	30.0
Toluene		88.3	79.8	124.5	2.5	30.0
Trichloroethene		87.9	79.7	124.2	3.8	30.0
Trichlorofluoromethane		99.3	59.7	151.8	11.9	30.0
Vinyl chloride		118.4	43.5	149.1	10.1	30.0
o-Xylene		101.0	80.2	131.0	1.6	30.0
p,m-Xylene		96.6	79.4	132.2	3.8	30.0

Merit Laboratories, Inc.

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C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Rodney Abke
COMPANY: Applied EcoSystems
ADDRESS: G-4300 South Saginaw Street
CITY: Burton STATE: MI ZIP CODE: 48529
PHONE NO.: 810-715-2525 FAX NO.: 810-715-2526 P.O. NO.: PO795930
E-MAIL ADDRESS: rabke@appliedecosystems.com QUOTE NO.:

INVOICE TO

CONTACT NAME: Monica Wallingford ☐ SAME
COMPANY: Revitalizing Auto Communities Environmental Response (RACER) Trust
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: 313.486.2978 E-MAIL ADDRESS: mwallingford@racertrust.org

PROJECT NO./NAME: RACER Flint West #12990
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Rodney Abke

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

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☒ OTHER report to MDLs

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	Metals, dissolved*	Metals, Total*	Special Instructions
30542.01	11-18-21	10:26	MW-115S-211118	GW	5		x	x					✓	✓	✓	* - Metals list incldues:
.02	11-18-21	9:06	MW-116S-211118	GW	5		x	x					✓	✓	✓	Ar, Cr-total, CR-Hex, Cu
.03	11-18-21	11:04	MW-117S-211118	GW	5		x	x					✓	✓	✓	Pb, Se, Zn
.04	11-18-21	--	DUP-1-211118	GW	5		x	x					✓	✓	✓	
.05	11-18-21	11:30	EB-1-211118	GW	4		x						✓	✓		report down to MCLs
.06	11-18-21	8:45	FB-1-211118	GW	5		x	x					✓	✓	✓	
.07	11-18-21	--	Trip Blank-211118	GW	1		x						✓			

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☑ Sampler	DATE 11-18-21	TIME 15:00
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 11/18/21	TIME 14:15
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 11/18/21	TIME 15:30
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 11/18/21	TIME 1530

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 4.6

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

Rev. 5.18.12

Quality Control Report

Report ID: QC-S30547-01
Generated on 12/13/2021

Report to

Attention: Rodney Abke
Applied Ecosystems
G4300 S. Saginaw Street
Burton, MI 48529

Phone: 810-715-2525 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): S30547.01-S30547.07
Project: RACER Flint West #12990
Submitted Date/Time: 11/18/2021 15:30
Sampled by: Rodney Abke
P.O. #: 795930

QC Report Sections

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

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S30547.01
Sample Tag: MW-115S-211118
Collected Date/Time: 11/18/2021 10:26
Matrix: Groundwater
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	12/01/21 00:13	AK211130	PF211130W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S30547.02
Sample Tag: MW-116S-211118
Collected Date/Time: 11/18/2021 09:06
Matrix: Groundwater
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	12/01/21 00:52	AK211130	PF211130W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S30547.03
Sample Tag: MW-117S-211118
Collected Date/Time: 11/18/2021 11:04
Matrix: Groundwater
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	12/01/21 01:31	AK211130	PF211130W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S30547.04
Sample Tag: DUP-1-211118
Collected Date/Time: 11/18/2021 00:01
Matrix: Groundwater
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	12/01/21 01:51	AK211130	PF211130W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S30547.05
Sample Tag: EB-1-211118
Collected Date/Time: 11/18/2021 11:30
Matrix: Groundwater
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	12/01/21 02:10	AK211130	PF211130W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S30547.06
Sample Tag: Field Blank-1-211118
Collected Date/Time: 11/18/2021 08:45
Matrix: Water
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	12/01/21 02:30	AK211130	PF211130W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S30547.07
Sample Tag: Trip Blank-211118
Collected Date/Time: 11/18/2021 00:01
Matrix: Water
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	12/01/21 02:49	AK211130	PF211130W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF211130W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S30547.01	28 PFAs	ASTMD7979-19M	12/01/21 00:13	AK211130
S30547.02	28 PFAs	ASTMD7979-19M	12/01/21 00:52	AK211130
S30547.03	28 PFAs	ASTMD7979-19M	12/01/21 01:31	AK211130
S30547.04	28 PFAs	ASTMD7979-19M	12/01/21 01:51	AK211130
S30547.05	28 PFAs	ASTMD7979-19M	12/01/21 02:10	AK211130
S30547.06	28 PFAs	ASTMD7979-19M	12/01/21 02:30	AK211130
S30547.07	28 PFAs	ASTMD7979-19M	12/01/21 02:49	AK211130

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S30547.01

Sample Tag: MW-115S-211118

Collected Date/Time: 11/18/2021 10:26

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK211130, Run Date: 12/01/2021 00:13, Matrix: WW, Dilution: 2.04

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**97.6**	50.0	150.0
M2-6:2FTSA		**79.4**	50.0	150.0
M2-8:2FTSA		**98.6**	50.0	150.0
M2PFTeDA		**119.2**	12.0	218.0
M3PFBS		**111.3**	50.0	150.0
M3PFHxS		**114.2**	50.0	150.0
M4PFHpA		**102.0**	50.0	150.0
M5PFHxA		**105.0**	50.0	150.0
M5PFPeA		**108.6**	50.0	150.0
M6PFDA		**105.9**	50.0	150.0
M7PFUnDA		**107.5**	50.0	150.0
M8FOSA		**109.4**	50.0	150.0
M8PFOA		**113.8**	50.0	150.0
M8PFOS		**112.3**	50.0	150.0
M9-PFNA		**113.8**	50.0	150.0
MPFBA		**113.8**	50.0	150.0
MPFDoDA		**102.5**	50.0	150.0
d3N-MeFOSAA		**102.2**	50.0	150.0
d5EtFOSAA		**120.7**	50.0	150.0
MHFPO-DA		**87.8**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S30547.02

Sample Tag: MW-116S-211118

Collected Date/Time: 11/18/2021 09:06

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK211130, Run Date: 12/01/2021 00:52, Matrix: WW, Dilution: 1.9

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**141.5**	50.0	150.0
M2-6:2FTSA		**96.7**	50.0	150.0
M2-8:2FTSA		**103.9**	50.0	150.0
M2PFTeDA		**115.5**	12.0	218.0
M3PFBS		**113.2**	50.0	150.0
M3PFHxS		**120.2**	50.0	150.0
M4PFHpA		**106.6**	50.0	150.0
M5PFHxA		**108.0**	50.0	150.0
M5PFPeA		**108.4**	50.0	150.0
M6PFDA		**110.7**	50.0	150.0
M7PFUnDA		**106.8**	50.0	150.0
M8FOSA		**109.4**	50.0	150.0
M8PFOA		**117.9**	50.0	150.0
M8PFOS		**111.7**	50.0	150.0
M9-PFNA		**122.6**	50.0	150.0
MPFBA		**109.9**	50.0	150.0
MPFDoDA		**102.7**	50.0	150.0
d3N-MeFOSAA		**102.1**	50.0	150.0
d5EtFOSAA		**123.4**	50.0	150.0
MHFPO-DA		**104.0**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S30547.03

Sample Tag: MW-117S-211118

Collected Date/Time: 11/18/2021 11:04

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK211130, Run Date: 12/01/2021 01:31, Matrix: WW, Dilution: 1.94

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**79.5**	50.0	150.0
M2-6:2FTSA		**69.1**	50.0	150.0
M2-8:2FTSA		**86.2**	50.0	150.0
M2PFTeDA		**114.7**	12.0	218.0
M3PFBS		**112.4**	50.0	150.0
M3PFHxS		**128.8**	50.0	150.0
M4PFHpA		**102.4**	50.0	150.0
M5PFHxA		**99.9**	50.0	150.0
M5PFPeA		**111.7**	50.0	150.0
M6PFDA		**103.9**	50.0	150.0
M7PFUnDA		**100.8**	50.0	150.0
M8FOSA		**113.1**	50.0	150.0
M8PFOA		**106.1**	50.0	150.0
M8PFOS		**106.2**	50.0	150.0
M9-PFNA		**113.9**	50.0	150.0
MPFBA		**114.7**	50.0	150.0
MPFDoDA		**99.6**	50.0	150.0
d3N-MeFOSAA		**106.4**	50.0	150.0
d5EtFOSAA		**113.6**	50.0	150.0
MHFPO-DA		**102.8**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S30547.04

Sample Tag: DUP-1-211118

Collected Date/Time: 11/18/2021 00:01

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK211130, Run Date: 12/01/2021 01:51, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**139.9**	50.0	150.0
M2-6:2FTSA		**92.4**	50.0	150.0
M2-8:2FTSA		**90.4**	50.0	150.0
M2PFTeDA		**111.4**	12.0	218.0
M3PFBS		**114.6**	50.0	150.0
M3PFHxS		**111.0**	50.0	150.0
M4PFHpA		**105.7**	50.0	150.0
M5PFHxA		**102.6**	50.0	150.0
M5PFPeA		**107.3**	50.0	150.0
M6PFDA		**103.1**	50.0	150.0
M7PFUnDA		**101.7**	50.0	150.0
M8FOSA		**104.4**	50.0	150.0
M8PFOA		**113.6**	50.0	150.0
M8PFOS		**110.1**	50.0	150.0
M9-PFNA		**118.5**	50.0	150.0
MPFBA		**107.5**	50.0	150.0
MPFDoDA		**102.2**	50.0	150.0
d3N-MeFOSAA		**108.3**	50.0	150.0
d5EtFOSAA		**120.2**	50.0	150.0
MHFPO-DA		**96.3**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S30547.05

Sample Tag: EB-1-211118

Collected Date/Time: 11/18/2021 11:30

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK211130, Run Date: 12/01/2021 02:10, Matrix: WW, Dilution: 1.94

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**86.2**	50.0	150.0
M2-6:2FTSA		**78.8**	50.0	150.0
M2-8:2FTSA		**80.4**	50.0	150.0
M2PFTeDA		**87.1**	12.0	218.0
M3PFBS		**123.9**	50.0	150.0
M3PFHxS		**125.3**	50.0	150.0
M4PFHpA		**96.1**	50.0	150.0
M5PFHxA		**106.4**	50.0	150.0
M5PFPeA		**109.6**	50.0	150.0
M6PFDA		**92.9**	50.0	150.0
M7PFUnDA		**93.5**	50.0	150.0
M8FOSA		**105.1**	50.0	150.0
M8PFOA		**115.4**	50.0	150.0
M8PFOS		**117.1**	50.0	150.0
M9-PFNA		**111.6**	50.0	150.0
MPFBA		**116.2**	50.0	150.0
MPFDoDA		**93.0**	50.0	150.0
d3N-MeFOSAA		**94.6**	50.0	150.0
d5EtFOSAA		**123.2**	50.0	150.0
MHFPO-DA		**112.7**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S30547.06

Sample Tag: Field Blank-1-211118

Collected Date/Time: 11/18/2021 08:45

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK211130, Run Date: 12/01/2021 02:30, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**78.5**	50.0	150.0
M2-6:2FTSA		**65.5**	50.0	150.0
M2-8:2FTSA		**72.7**	50.0	150.0
M2PFTeDA		**87.2**	12.0	218.0
M3PFBS		**104.6**	50.0	150.0
M3PFHxS		**110.2**	50.0	150.0
M4PFHpA		**91.1**	50.0	150.0
M5PFHxA		**91.6**	50.0	150.0
M5PFPeA		**99.5**	50.0	150.0
M6PFDA		**88.0**	50.0	150.0
M7PFUnDA		**84.3**	50.0	150.0
M8FOSA		**96.2**	50.0	150.0
M8PFOA		**97.8**	50.0	150.0
M8PFOS		**107.1**	50.0	150.0
M9-PFNA		**106.0**	50.0	150.0
MPFBA		**103.3**	50.0	150.0
MPFDoDA		**85.4**	50.0	150.0
d3N-MeFOSAA		**86.8**	50.0	150.0
d5EtFOSAA		**99.3**	50.0	150.0
MHFPO-DA		**85.6**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S30547.07

Sample Tag: Trip Blank-211118

Collected Date/Time: 11/18/2021 00:01

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK211130, Run Date: 12/01/2021 02:49, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**76.3**	50.0	150.0
M2-6:2FTSA		**71.4**	50.0	150.0
M2-8:2FTSA		**88.5**	50.0	150.0
M2PFTeDA		**88.5**	12.0	218.0
M3PFBS		**115.0**	50.0	150.0
M3PFHxS		**117.5**	50.0	150.0
M4PFHpA		**102.5**	50.0	150.0
M5PFHxA		**95.4**	50.0	150.0
M5PFPeA		**102.1**	50.0	150.0
M6PFDA		**96.8**	50.0	150.0
M7PFUnDA		**98.0**	50.0	150.0
M8FOSA		**106.5**	50.0	150.0
M8PFOA		**104.3**	50.0	150.0
M8PFOS		**106.7**	50.0	150.0
M9-PFNA		**108.5**	50.0	150.0
MPFBA		**81.5**	50.0	150.0
MPFDoDA		**101.3**	50.0	150.0
d3N-MeFOSAA		**94.8**	50.0	150.0
d5EtFOSAA		**96.5**	50.0	150.0
MHFPO-DA		**86.4**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF211130W1

QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK211130.BLK211130W

Run in Batch: AK211130, Run Date: 11/30/2021 20:00, Prep Date: 11/30/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**84.8**	50.0	150.0
M2-6:2FTSA		**81.1**	50.0	150.0
M2-8:2FTSA		**82.2**	50.0	150.0
M2PFTeDA		**87.8**	12.0	218.0
M3PFBS		**111.0**	50.0	150.0
M3PFHxS		**109.1**	50.0	150.0
M4PFHpA		**102.3**	50.0	150.0
M5PFHxA		**103.0**	50.0	150.0
M5PFPeA		**100.8**	50.0	150.0
M6PFDA		**104.4**	50.0	150.0
M7PFUnDA		**89.1**	50.0	150.0
M8FOSA		**98.9**	50.0	150.0
M8PFOA		**107.2**	50.0	150.0
M8PFOS		**95.8**	50.0	150.0
M9-PFNA		**121.0**	50.0	150.0
MPFBA		**104.5**	50.0	150.0
MPFDoDA		**94.2**	50.0	150.0
d3N-MeFOSAA		**93.0**	50.0	150.0
d5EtFOSAA		**109.5**	50.0	150.0
MHFPO-DA		**97.3**	50.0	150.0

Laboratory Control Sample (LCS)

Lab Sample ID: AK211130.LCS211130W

Run in Batch: AK211130, Run Date: 11/30/2021 19:21, Prep Date: 11/30/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**85.3**	50.0	150.0
M2-6:2FTSA		**82.1**	50.0	150.0
M2-8:2FTSA		**92.0**	50.0	150.0
M2PFTeDA		**107.5**	12.0	218.0
M3PFBS		**105.4**	50.0	150.0
M3PFHxS		**103.0**	50.0	150.0
M4PFHpA		**93.1**	50.0	150.0
M5PFHxA		**99.6**	50.0	150.0
M5PFPeA		**99.0**	50.0	150.0
M6PFDA		**98.9**	50.0	150.0
M7PFUnDA		**103.0**	50.0	150.0
M8FOSA		**96.8**	50.0	150.0
M8PFOA		**104.5**	50.0	150.0
M8PFOS		**98.9**	50.0	150.0
M9-PFNA		**109.2**	50.0	150.0
MPFBA		**104.2**	50.0	150.0
MPFDoDA		**102.4**	50.0	150.0
d3N-MeFOSAA		**91.0**	50.0	150.0
d5EtFOSAA		**108.1**	50.0	150.0
MHFPO-DA		**103.9**	50.0	150.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK211130.LCSD211130W, Parent Sample ID: AK211130.LCS211130W

Run in Batch: AK211130, Run Date: 11/30/2021 19:40, Prep Date: 11/30/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**85.1**	50.0	150.0
M2-6:2FTSA		**79.1**	50.0	150.0
M2-8:2FTSA		**80.3**	50.0	150.0
M2PFTeDA		**104.3**	12.0	218.0
M3PFBS		**104.5**	50.0	150.0
M3PFHxS		**113.4**	50.0	150.0
M4PFHpA		**95.8**	50.0	150.0
M5PFHxA		**97.0**	50.0	150.0
M5PFPeA		**99.1**	50.0	150.0
M6PFDA		**106.9**	50.0	150.0
M7PFUnDA		**96.3**	50.0	150.0
M8FOSA		**94.4**	50.0	150.0
M8PFOA		**114.1**	50.0	150.0
M8PFOS		**105.7**	50.0	150.0
M9-PFNA		**114.3**	50.0	150.0
MPFBA		**106.0**	50.0	150.0
MPFDoDA		**100.0**	50.0	150.0
d3N-MeFOSAA		**101.8**	50.0	150.0
d5EtFOSAA		**117.5**	50.0	150.0
MHFPO-DA		**100.5**	50.0	150.0

Matrix Spike (MS)

Lab Sample ID: AK211130.3054701M, Parent Sample ID: S30547.01

Run in Batch: AK211130, Run Date: 12/01/2021 00:33, Prep Date: 11/30/2021, Matrix: WW, Dilution: 2.04

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**98.0**	50.0	150.0
M2-6:2FTSA		**88.2**	50.0	150.0
M2-8:2FTSA		**92.9**	50.0	150.0
M2PFTeDA		**122.3**	12.0	218.0
M3PFBS		**117.3**	50.0	150.0
M3PFHxS		**110.8**	50.0	150.0
M4PFHpA		**114.2**	50.0	150.0
M5PFHxA		**109.2**	50.0	150.0
M5PFPeA		**110.9**	50.0	150.0
M6PFDA		**102.0**	50.0	150.0
M7PFUnDA		**104.4**	50.0	150.0
M8FOSA		**115.0**	50.0	150.0
M8PFOA		**111.6**	50.0	150.0
M8PFOS		**105.9**	50.0	150.0
M9-PFNA		**111.3**	50.0	150.0
MPFBA		**115.6**	50.0	150.0
MPFDoDA		**107.7**	50.0	150.0
d3N-MeFOSAA		**104.7**	50.0	150.0
d5EtFOSAA		**133.0**	50.0	150.0
MHFPO-DA		**97.6**	50.0	150.0

Duplicate (DUP)

Lab Sample ID: AK211130.3054702D, Parent Sample ID: S30547.02

Run in Batch: AK211130, Run Date: 12/01/2021 01:12, Prep Date: 11/30/2021, Matrix: WW, Dilution: 1.9

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**135.5**	50.0	150.0
M2-6:2FTSA		**93.6**	50.0	150.0
M2-8:2FTSA		**105.5**	50.0	150.0
M2PFTeDA		**119.5**	12.0	218.0
M3PFBS		**119.2**	50.0	150.0
M3PFHxS		**111.1**	50.0	150.0
M4PFHpA		**102.7**	50.0	150.0
M5PFHxA		**104.1**	50.0	150.0
M5PFPeA		**107.9**	50.0	150.0
M6PFDA		**110.6**	50.0	150.0
M7PFUnDA		**111.7**	50.0	150.0
M8FOSA		**111.0**	50.0	150.0
M8PFOA		**120.2**	50.0	150.0
M8PFOS		**100.2**	50.0	150.0
M9-PFNA		**115.0**	50.0	150.0
MPFBA		**109.3**	50.0	150.0
MPFDoDA		**109.7**	50.0	150.0
d3N-MeFOSAA		**103.6**	50.0	150.0
d5EtFOSAA		**112.7**	50.0	150.0
MHFPO-DA		**99.7**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF211130W1

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

Blank (BLK)

Lab Sample ID: AK211130.BLK211130W

Run in Batch: AK211130, Run Date: 11/30/2021 20:00, Prep Date: 11/30/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFPeA		ND	4	ng/l
4:2 FTSA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
PFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFNA		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFHpS		ND	2	ng/l
PFDA		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS		ND	2	ng/l
PFOS-LN		ND	2	ng/l
PFOS-BR		ND	2	ng/l
PFUnDA		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTrDA		ND	2	ng/l
FOSA		ND	2	ng/l
PFTeDA		ND	4	ng/l
11CL-PF3OUdS		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
ADONA		ND	2	ng/l
HFPO-DA		ND	2	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: AK211130.LCS211130W

Run in Batch: AK211130, Run Date: 11/30/2021 19:21, Prep Date: 11/30/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		101.0	70.0	130.0
PFPeA		94.6	70.0	130.0
4:2 FTSA		105.0	70.0	130.0
PFHxA		91.6	70.0	130.0
PFBS		105.0	70.0	130.0
HFPO-DA		94.1	70.0	130.0
PFHpA		110.0	70.0	130.0
ADONA		105.0	70.0	130.0
PFPeS		101.0	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF211130W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: AK211130.LCS211130W

Run in Batch: AK211130, Run Date: 11/30/2021 19:21, Prep Date: 11/30/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
6:2 FTSA		88.6	70.0	130.0
PFOA		91.5	70.0	130.0
PFHxS		106.0	70.0	130.0
PFNA		97.8	70.0	130.0
8:2 FTSA		108.0	70.0	130.0
PFHpS		97.9	70.0	130.0
N-MeFOSAA		105.0	70.0	130.0
PFDA		107.0	70.0	130.0
EtFOSAA		115.0	70.0	130.0
PFOS		81.1	70.0	130.0
PFUnDA		97.3	70.0	130.0
9CL-PF3ONS		99.0	70.0	130.0
PFNS		93.6	70.0	130.0
PFDoDA		93.5	70.0	130.0
PFDS		97.9	70.0	130.0
PFTrDA		105.0	70.0	130.0
FOSA		95.1	70.0	130.0
11CL-PF3OUdS		109.0	70.0	130.0
PFTeDA		92.2	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK211130.LCSD211130W, Parent Sample ID: AK211130.LCS211130W

Run in Batch: AK211130, Run Date: 11/30/2021 19:40, Prep Date: 11/30/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		96.9	70.0	130.0	4.1	30.0
PFPeA		92.1	70.0	130.0	2.7	30.0
4:2 FTSA		98.7	70.0	130.0	6.2	30.0
PFHxA		86.0	70.0	130.0	6.3	30.0
PFBS		97.4	70.0	130.0	7.5	30.0
HFPO-DA		92.4	70.0	130.0	1.8	30.0
PFHpA		98.5	70.0	130.0	11.0	30.0
ADONA		82.7	70.0	130.0	23.8	30.0
PFPeS		101.0	70.0	130.0	0.0	30.0
6:2 FTSA		97.3	70.0	130.0	9.4	30.0
PFOA		82.0	70.0	130.0	11.0	30.0
PFHxS		88.0	70.0	130.0	18.6	30.0
PFNA		90.7	70.0	130.0	7.5	30.0
8:2 FTSA		102.0	70.0	130.0	5.7	30.0
PFHpS		84.2	70.0	130.0	15.0	30.0
N-MeFOSAA		86.6	70.0	130.0	19.2	30.0
PFDA		98.0	70.0	130.0	8.8	30.0
EtFOSAA		96.3	70.0	130.0	17.7	30.0
PFOS		73.3	70.0	130.0	10.1	30.0
PFUnDA		92.8	70.0	130.0	4.7	30.0
9CL-PF3ONS		88.7	70.0	130.0	11.0	30.0
PFNS		89.2	70.0	130.0	4.8	30.0

Organics - Volatiles, Prep Batch ID: PF211130W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK211130.LCSD211130W, Parent Sample ID: AK211130.LCS211130W

Run in Batch: AK211130, Run Date: 11/30/2021 19:40, Prep Date: 11/30/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFDoDA		92.4	70.0	130.0	1.2	30.0
PFDS		82.9	70.0	130.0	16.6	30.0
PFTrDA		102.0	70.0	130.0	2.9	30.0
FOSA		93.5	70.0	130.0	1.7	30.0
11CL-PF3OUdS		95.6	70.0	130.0	13.1	30.0
PFTeDA		91.6	70.0	130.0	0.7	30.0

Matrix Spike (MS)

Lab Sample ID: AK211130.3054701M, Parent Sample ID: S30547.01

Run in Batch: AK211130, Run Date: 12/01/2021 00:33, Prep Date: 11/30/2021, Matrix: WW, Dilution: 2.04

Analyte	Flags	% Rec	LCL	UCL
PFBA		117.6	70.0	130.0
PFPeA		91.2	70.0	130.0
4:2 FTSA		96.1	70.0	130.0
PFHxA		90.2	70.0	130.0
PFBS		95.8	70.0	130.0
PFHpA		85.3	70.0	130.0
PFPeS		98.0	70.0	130.0
6:2 FTSA		86.3	70.0	130.0
PFOA		84.0	70.0	130.0
PFHxS		105.0	70.0	130.0
PFNA		96.1	70.0	130.0
8:2 FTSA		91.2	70.0	130.0
PFHpS		87.3	70.0	130.0
PFDA		98.0	70.0	130.0
N-MeFOSAA		92.2	70.0	130.0
EtFOSAA		90.6	70.0	130.0
PFOS		71.6	70.0	130.0
PFUnDA		98.0	70.0	130.0
PFNS		90.2	70.0	130.0
PFDoDA		94.1	70.0	130.0
PFDS		91.2	70.0	130.0
PFTrDA		98.0	70.0	130.0
FOSA		90.2	70.0	130.0
PFTeDA		84.3	70.0	130.0
11CL-PF3OUdS		98.0	70.0	130.0
9CL-PF3ONS		92.2	70.0	130.0
ADONA		90.2	70.0	130.0
HFPO-DA		98.0	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK211130.3054702D, Parent Sample ID: S30547.02

Run in Batch: AK211130, Run Date: 12/01/2021 01:12, Prep Date: 11/30/2021, Matrix: WW, Dilution: 1.9

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0

Organics - Volatiles, Prep Batch ID: PF211130W1 (continued)

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

Duplicate (DUP) (continued)

Lab Sample ID: AK211130.3054702D, Parent Sample ID: S30547.02

Run in Batch: AK211130, Run Date: 12/01/2021 01:12, Prep Date: 11/30/2021, Matrix: WW, Dilution: 1.9

Analyte	Flags	RPD	RPD CL
4:2 FTSA		NC	30.0
PFHxA		NC	30.0
PFBS		NC	30.0
PFHpA		NC	30.0
PFPeS		NC	30.0
6:2 FTSA		NC	30.0
PFOA		10.5	30.0
PFHxS		NC	30.0
PFHxS-LN		NC	30.0
PFHxS-BR		NC	30.0
PFNA		NC	30.0
8:2 FTSA		NC	30.0
PFHpS		NC	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0
EtFOSAA		NC	30.0
PFOS		12.8	30.0
PFOS-LN		6.5	30.0
PFOS-BR		15.6	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0

Merit Laboratories, Inc.

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www.meritlabs.com

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Rodney Abke
COMPANY: Applied EcoSystems
ADDRESS: G-4300 South Saginaw Street
CITY: Burton | STATE: MI | ZIP CODE: 48529
PHONE NO.: 810-715-2525 | FAX NO.: 810-715-2526 | P.O. NO.: PO795930
E-MAIL ADDRESS: rabke@appliedecosystems.com | QUOTE NO.:

INVOICE TO

CONTACT NAME: Monica Wallingford ☐ SAME
COMPANY: Revitalizing Auto Communities Environmental Response (RACER) Trust
ADDRESS:
CITY: | STATE: | ZIP CODE:
PHONE NO.: 313.486.2978 | E-MAIL ADDRESS: mwallingford@racertrust.org

PROJECT NO./NAME: RACER Flint West #12990
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Rodney Abke

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

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☒ OTHER report to MDLs

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS/PFOS **	Special Instructions
30547.01	11-18-21	10:26	MW-115S-211118	GW	3	x							✓	**- 28 Compound List
.02	11-18-21	9:06	MW-116S-211118	GW	3	x							✓	
.03	11-18-21	11:04	MW-117S-211118	GW	3	x							✓	report down to MDLs
.04	11-18-21	--	DUP-1-211118	GW	3	x							✓	
.05	11-18-21	11:30	EB-1-211118	GW	3	x							✓	
.06	11-18-21	8:45	Field Blank-1-211118	GW	3	x							✓	
.07	1-18-21	--	Trip Blank-211118	GW	1	X							✓	

RELINQUISHED BY: SIGNATURE/ORGANIZATION (Sampler)		DATE: 11-18-21	TIME: 13:00
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE: 11/18/21	TIME: 14:15
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE: 11/18/21	TIME: 15:2
RECEIVED BY: SIGNATURE/ORGANIZATION	Johanna Yurney	DATE: 11/18/21	TIME: 1530

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: TEMP. ON ARRIVAL 4.6

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

Rev. 5.18.12

APPENDIX D: TABLES

Table 1

Comparison of Groundwater Elevation and Sewer Utility Elevations

RACER - Flint West # 12990

Utility Location	Utility Elevation (Surface)	Utility Depth	Type	Utility Elevation*	Nearest Well	Groundwater Elevation (Lowest recorded)	Groundwater Elevation (Highest recorded)	Evaluation
near CB-2 on Glenwood Ave/southwest corner of Site	726.75	8.90	sanitary	717.85	MW-105S	708.70	710.50	Utility Above DTW
near CB-2 on Glenwood Ave/southwest corner of Site	726.75	11.00	storm	715.75	MW-105S	708.70	710.50	Utility Above DTW
near the intersection of Glenwood Ave and Chase St./ MW-104S	725.75	7.00	sanitary	718.75	MW-104S	705.61	711.91	Utility Above DTW
near the intersection of Glenwood Ave and Chase St./ MW-104S	725.75	11.00	storm	714.75	MW-104S	705.61	711.91	Utility Above DTW
near intersect of Glenwood Ave & Stevenson St	725.50	7.00	sanitary	718.50	MW-106SR	706.89	709.04	Utility Above DTW
near intersect of Glenwood Ave & Stevenson St	725.50	11.00	storm	714.50	MW-106SR	706.89	709.04	Utility Above DTW
near MW-107S on Stevenson St.	725.50	11.00	sanitary	714.50	MW-107S	706.06	709.01	Utility Above DTW
near MW-107S on Stevenson St.	725.50	12.00	storm	713.50	MW-107S	706.06	709.01	Utility Above DTW
near intersection of walking path and Stevenson St	714.50	9.25	sanitary	705.25	MW-108S	700.49	704.37	Utility Above DTW
near intersection of walking path and Stevenson St	714.50	7.00	storm	707.50	MW-108S	700.49	704.37	Utility Above DTW

Utility elevations are estimated based on information provided by the City of Flint.

*- Estimated elevation of the bottom of the utility

Table 2
Groundwater Analytical Results
RACER - Flint West # 12990

				Sample ID	MW-115S	MW-116S	MW-117S	Dupe1	FB-1	EB-1	Trip Blank
				Date Collected	11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021
METALS ANALYTE (ug/L)	**DW**	GSI						**MW-116S**			
Arsenic, Dissolved	10	10			0.01	0.005	0.00059	0.005	<0.002	0.00021	NA
Arsenic	10	10			**41**	**23**	0.314	**22**	NA	0.3	NA
Chromium VI, Dissolved	100	11			<10	<10	<10	<10	<10	<10	NA
Chromium VI	100	11			<50	<50	<10	<25	NA	<10	NA
Chromium, Dissolved	100	160	G		0.136	1.22	0.266	0.154	<5	<5	NA
Chromium	100	160	G		0.75	0.174	0.299	0.336	NA	0.098	NA
Copper, Dissolved	1000	20	G		0.468	<5	1.2	<5	<5	<5	NA
Copper	1000	20	G		1.11	0.638	1.26	0.653	NA	<5	NA
Lead, Dissolved	4	44	G		<3	<3	<3	<300	<300	<300	NA
Lead	4	44	G		<3	0.204	<3	<3	NA	<3	NA
Manganese, Dissolved	50	4500			NA	NA	NA	NA	NA	NA	NA
Manganese	50	4500			NA	NA	NA	NA	NA	NA	NA
Selenium, Dissolved	50	5			<5	<5	<5	<5	<5	<5	NA
Selenium	50	5			<5	<5	<5	<5	NA	<5	NA
Zinc, Dissolved	2400	260	G		3.37	4.1	6	9	1.9	3	NA
Zinc	2400	260	G		7	4.88	10	9	NA	4.32	NA
VOC ANALYTE (ug/L)	**DW**	GSI									
Acetone	730	1700			<50	<50	<50	<50	<50	<50	<50
Acrylonitrile	2.6	2.0 (M); 1.2			<2	<2	<2	<2	<2	<2	<2
2-Butanone (MEK)	13000	2,200			<25	<25	<25	<25	<25	<25	<25
Benzene	5	200			0.25	0.43	<1	0.42	<1	<1	<1
n-Butylbenzene	NC	NC			<1	<1	<1	<1	<1	<1	<1
Bromobenzene	18	NA			<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	NC	NC			<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	80	NC			<1	<1	<1	<1	<1	<1	<1
Bromoform	80 (A,W)	ID			<1	<1	<1	<1	<1	<1	<1
Bromomethane	10	4.2; [5(M)]			<5	<5	<5	<5	<5	<5	<5
sec-Butylbenzene	230	ID			<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	80	ID			<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	800	NC			<5	<5	<5	<5	<5	<5	<5
Carbon tetrachloride	5	38	X		<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	100	25			0.23	<1	<1	<1	<1	<1	<1
Chloroethane	430	1,100			<5	<5	<5	<5	<5	<5	<5
Chloroform	80	350			<1	<1	0.18	<1	<1	<1	<1
Chloromethane	260	NC			<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	880	740			<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	7	130			<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	NC	NC			<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	NC	NC			<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	600	13			0.48	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	5.0 (A)	360 (X)			<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5.0 (A)	230 (X)			<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	6.6	28			<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	75	17			0.15	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	70	620			<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	NC	NC			<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	80 (A,W)	ID			<5	<5	<5	<5	<5	<5	<5
Dibromomethane	230	NA			<5	<5	<5	<5	<5	<5	<5
Dichlorodifluoromethane	1700	ID			<5	<5	<5	<5	<5	<5	<5
Diethyl ether	10 (E)	ID			<10	<10	<10	<10	<10	<10	<10
trans-1,2-Dichloroethene	100	1500			<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	NC	NC			<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	NC	NC			<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	74	18			<1	<1	<1	<1	<1	<1	<1
2-Hexanone	1000	ID			<50	<50	<50	<50	<50	<50	<50
Hexachloroethane	21	6.7			<5	<5	<5	<5	<5	<5	<5
p-Isopropyltoluene	NC	NC			<5	<5	<5	<5	<5	<5	<5
Isopropylbenzene	800	28			<5	<5	<5	<5	<5	<5	<5
2-Methylnaphthalene	260	19			<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	1800	ID			<50	<50	<50	<50	<50	<50	<50
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)			<5	<5	<5	<5	<5	<5	<5
Methyl iodide	NC	NC			<1	<1	<1	<1	<1	<1	<1
Methylene chloride	5	1500			<5	<5	<5	<5	<5	<5	0.22
Naphthalene	520	11			<5	<5	<5	<5	<5	<5	<5
n-Propylbenzene	80	ID			<1	<1	<1	<1	<1	<1	<1
Styrene	100	80			<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	77	ID			<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	89			<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	8.5	78 (X)			<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5.0 (A)	330 (X)			<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	NC	NC			<5	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	42	NA			<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	NC	NC			<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	NC	NC			<5	<5	<5	<5	<5	<5	<5

Table 2
Groundwater Analytical Results
RACER - Flint West # 12990

			MW-115S	MW-116S	MW-117S	Dupe1	FB-1	EB-1	Trip Blank
Sample ID									
Date Collected			11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021	11/18/2021
VOC ANALYTE (ug/L)	**DW**	GSI							
1,2,4-Trimethylbenzene	63 (E)	17	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	72 (E)	45	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	60	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	95	11000	<90	<90	<90	<90	<90	<90	<90
Toluene	790	270	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	200	<1	<1	1	<1	<1	<1	<1
Trichlorofluoromethane	2600	NA	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	2	13	0.95	<1	<1	<1	<1	<1	<1
o-Xylene	NC	NC	<1	<1	<1	<1	<1	<1	<1
p,m-Xylene	NC	NC	<2	<2	<2	<2	<2	<2	<2
Xylenes, Total	280	49	<3	<3	<3	<3	<3	<3	<3
PFA ANALYTE (ng/L)	**DW**	GSI							
Perfluorobutanoic acid (PFBA)	NC	NC	<41	<57	<9.7	<40	<9.7	<10.0	<9.9
Perfluoropentanoic acid (PFPeA)	NC	NC	<4.1	<3.8	<3.9	<4.0	<3.9	<4.0	<3.9
Fluorotelomer sulfonic acid (4:2 FTS)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorohexanoic acid (PFHxA)	400,000	NC	<2.0	<1.9	1.9	<2.0	<1.9	<2.0	<2.0
Perfluorobutane sulfonic acid (PFBS)	420	NC	2.3	<1.9	1.4	<2.0	<1.9	<2.0	<2.0
Perfluoroheptanoic acid (PFHpA)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluoropentane sulfonic acid (PFPeS)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Fluorotelomer sulfonic acid (6:2 FTS)	NC	NC	<4.1	<3.8	<3.9	<4.0	<3.9	<4.0	<3.9
Perfluorooctanoic acid (PFOA)	8	12,000	2.3	2	2.8	1.8	<1.9	<2.0	<2.0
Perfluorohexane sulfonic acid (PFHxS)	51	NC	2.9	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorononanoic acid (PFNA)	6	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Fluorotelomer sulfonic acid (8:2 FTS)	NC	NC	<4.1	<3.8	<3.9	<4.0	<3.9	<4.0	<3.9
Perfluoroheptane sulfonic acid (PFHpS)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorodecanoic acid (PFDA)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	NC	NC	2.6	<3.8	<3.9	<4.0	<3.9	<4.0	<3.9
Perfluorooctane sulfonic acid (PFOS)	16	12	**27**	**22**	**3.1**	**23**	<1.9	<2.0	<2.0
Perfluorooctane Sulfonic Acid - LN (PFOS-LN)	NC	NC	18	15	<1.9	14	<1.9	<2.0	<2.0
Perfluorooctane Sulfonic Acid - BR (PFOS-BR)	NC	NC	9.5	7.1	<1.9	8.1	<1.9	<2.0	<2.0
Perfluoroundecanoic acid (PFUnDA)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorononane sulfonic acid (PFNS)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorododecanoic acid (PFDoDA)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorodecane sulfonic acid (PFDS)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorotridecanoic acid (PFTrDA)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorooctane sulfonamide (FOSA)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorotetradecanoic acid (PFTeDA)	NC	NC	<4.1	<3.8	<3.9	<4.0	<3.9	<4.0	<3.9
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	NC	<2.0	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	NC	NC	<10	<9.5	<9.7	<10	<9.7	<10.0	<9.9

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

NOTES:

DW - Drinking Water Residential Generic Criteria.

GSI - Groundwater Surface Water Interface Generic Criteria per MDEQ Surface Water Division Rule 57.

Blank cells indicate no detectable concentrations	
Exceeds DW criteria	**X**
Exceeds GSI criteria	X
Exceeds both DW and GSI criteria	**X**
Compound also found in associated method blank, suggesting a laboratory artifact.	**X**
Insufficient data to develop criterion/no criterion	NC
Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River	G
Not Sampled	NS
Filtered in lab	1
Filtered and preserved in lab	2
Not analyzed	NA

PFAS criteria based on EGLE proposed drinking water criteria for selected PFAS compounds.