



SEMI-ANNUAL GROUNDWATER MONITORING DATA REPORT

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Dave Favero, RACER TRUST

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FROM: Rodney Abke & Mike Smith, Applied EcoSystems, Inc.

DATE: February 7, 2024

SUBJECT: RACER Flint West Industrial Land (#12990)
Semi-Annual Monitoring

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(All investigations conducted by RACER to-date)
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Applied *Eco*Systems, Inc.

Environmental Management, Consulting & Field Services

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1.0 INTRODUCTION

Since the previous Data Report (dated December 13, 2022), Applied EcoSystems, Inc. (Æ) conducted a routine groundwater monitoring event (gauging and sampling) on the Site and the adjoining Genesee County Parks (GCP) property to the north on September 14, 2023. This report provides a summary and the results of the groundwater monitoring event.

A Site Location Map is included as Figure 1 and for reference Site investigation locations are included in Figure 2. The Site consists of approximately three acres of land located west of Stevens Street and north of Glenwood Avenue in Flint, Genesee County, Michigan. Almost the entire Site consists of concrete pavement, remaining after the demolition of a former manufacturing building. The Site is secured with a locked chain-link fence.

The Site is developed with a Consumers Energy electrical substation with an equipment shelter in the central portion and a utility conduit shed on the southeast corner. Per John Ebenhoeh with Consumers Energy, the small building on the southeast corner is a shelter for conduits that run under the road to the GM tool and die facility. This building is accessed approximately once per year for approximately two hours. The building in the fenced area is a support equipment shelter for the substation. The fenced area is accessed approximately once per month for approximately two hours, and the building itself is accessed less frequently and for shorter durations.

2.0 MONITORING ACTIVITIES COMPLETED

Groundwater Monitoring¹

- o All monitoring wells were gauged for depth to water on September 14, 2023. A Groundwater Contour Map prepared using the September 14, 2023, groundwater elevation data is included as Figure 3 in Appendix A. For reference, previously submitted cross section diagrams showing soil types and groundwater elevations are included in Appendix B as Attachment 1.
- o A routine groundwater monitoring event was conducted on September 14, 2023.
- o Groundwater samples were collected from monitoring wells MW-103S, MW-106SR, MW-108S, MW-110S, MW-112S, MW-114S, and MW-117S¹ to be analyzed for Volatile Organic Compounds (VOCs), dissolved and total metals (arsenic, chromium [total], chromium VI, copper, lead, selenium, and zinc), and per- and polyfluoroalkyl (PFAS). Monitoring well MW-104S, was not sampled due insufficient water in the well for sampling.

Analytical results are summarized in Appendix B as Attachment 2. Laboratory analytical reports for all monitoring activities are included in Appendix B as Attachment 3.

¹ A reduction in the number of wells sampled during the semi-annual sampling events was requested in the *November 2021 Subsurface Investigation* report dated January 27, 2022, submitted to USEPA. The request was approved by USEPA on March 4, 2022.



3.0 MONITORING RESULTS

Groundwater (Semiannual Sampling)

Comparison of groundwater data (September 14, 2023) to current EGLE Generic Residential and Non-Residential Cleanup Criteria (GR/NCC) dated December 21, 2020 indicates the following:

Metals: Dissolved Arsenic was detected above drinking water (DW) and/or groundwater to surface water (GSI) criteria as shown in the table below. The concentrations are consistent with expected regional conditions, do not appear to represent a plume, and are considered generally to be naturally occurring. Although EGLE has published state-wide and regional “background” concentrations for soils, no such values have been published for groundwater; however, the concentrations generally are consistent with concentrations encountered by Æ at other uncontaminated sites in the Flint area. The dissolved metals concentrations are considered to be more representative of Site conditions than total metal concentrations for the purposes of this assessment.

Table 1.0 – Dissolved Metals Exceedances in Groundwater

Well ID	Metal	Drinking Water Criterion	GSI Criterion	Result
MW-103S	Dissolved Arsenic	10	10	13
MW-112S	Dissolved Arsenic	10	10	34

- All results are expressed in µg/L.
- Groundwater Results in **red** indicate a criteria exceedance.

VOCs: Exceedances were present as follows:

Table 2.0 – VOCs Exceedances in Groundwater

Well ID	VOC	Drinking Water Criterion	GSI Criterion	Result
MW-112S	Vinyl Chloride	2	13	9
MW-114S	Trichloroethene	5	200	166
MW-114S	Vinyl Chloride	2	13	3.5

- All results are expressed in µg/L.
- Groundwater Results in **red** indicate a criteria exceedance.

PFAS: Detected concentrations of PFAS that have EGLE criteria did not exceed criteria in any sample except for Perfluorooctane sulfonic acid (PFOS) concentrations exceeded drinking water criterion (16 ng/L) and/or GSI criteria (12 ng/L) in MW-103S, MW-108S, and MW-114S. These results are similar to the previous PFAS results for the groundwater samples collected in September 2022.

A table of all groundwater sample analytical results for all groundwater samples collected on behalf of RACER is included in Appendix B as Attachment 2. Sample analytical results for the September 2023 sampling events are included in Appendix B as Attachment 3. Figure 4 illustrates the GSI and



drinking water exceedances for VOCs and metals in groundwater identified in groundwater samples collected from 2017 through 2023. For reference, Figure 5 includes data boxes and exceedances identified in soil samples. Figure 6 includes data boxes and exceedances for PFAS results. Low-flow sampling forms for the September 2023 sampling event are included in Appendix D. The Laboratory data validation report is included in Appendix E.

Note that elevated tetrachloroethene levels have been consistently detected in one up-gradient well, MW-105S, since April 2012; and tetrachloroethene (PCE) also consistently has been detected in the same well, likely as a degradation product of the tetrachloroethene. This well is hydrogeologically downgradient from a former print shop located south of the Site.

The primary Site-specific constituents of concern are TCE and vinyl chloride, which appear to be exhibiting natural attenuation. PFOS concentrations have decreased or remained stable.

4.0 LABORATORY DATA VALIDATION SUMMARY

On September 14, 2023, Æ collected groundwater samples from seven monitoring wells at the RACER Flint West Industrial Land site using USEPA low-stress sampling protocols. One duplicate sample, one field blank, and one matrix spike and duplicate were collected. Samples were collected in appropriate laboratory-provided bottles with laboratory-provided preservatives and were maintained on ice until delivery under complete chain-of-custody protocols to Merit Laboratories within appropriate holding times. No sample condition issues were identified in the field or upon laboratory receipt. Samples were analyzed by specified standard methods for VOCs, EGLE 28 PFAS, six total and dissolved metals, and total and dissolved chromium VI. Filtration and preservation for dissolved metals and for total and dissolved chromium VI were performed immediately upon laboratory receipt instead of during field collection.

Laboratory deliverables include four laboratory reports, four quality control reports, and chains-of-custody for each -- two each for PFAS and for VOCs and metals. Each laboratory report contained a case narrative, laboratory accreditation/certification information, laboratory contact information, analytical methods, and analyte reporting relative to method detection limits (MDLs) and reporting limits (RLs). Data qualifiers were identified and evaluated in this Laboratory Data Validation report. No samples were extracted or analyzed beyond their holding times.

All surrogate recoveries were within their allowable ranges for each surrogate compound, except Chromium VI (low), Trichlorofluoromethane (low), PFTrDA (high), PFPeA (high), PFOA (high), and PFOS (low), none of which were commonly present in groundwater at the site -- indicating satisfactory laboratory performance overall. Analysis of laboratory blank samples identified no indications of significant cross-contamination, with only a low level of 2-methylnaphthalene indicated. The equipment blank identified only a low concentration of total and dissolved arsenic and chromium, methylene chloride, and toluene exceeding their report limits. The field blank was determined to contain detectable concentrations of total and dissolved arsenic, total chromium, and tetrahydrofuran exceeding RLs. The trip blank was identified with detectable concentration of 1,2-dichlorobenzene, 1,2-dibromo-3-chloropropane, 1,2,3-trichlorobenzene, naphthalene, and 2-



methylnaphthalene. Accordingly, no significant indications of cross-contamination were identified. Laboratory Control Spike (LCS) and LCS Duplicate analyses indicated potential for PFAS analytes PFPeA and PFOA to be reported high. Matrix spikes and their duplicates indicated potential for PFAS analyte PFTrDA and chromium VI to be reported high, for PFOS to be reported low, and for trichlorofluoromethane to be reported low. Of the potentially elevated analytes, PFPeA was detected in groundwater samples from MW-106SR, MW-110S, and MW-114S and PFOA was detected in groundwater samples from MW-106SR, MW-103S, MW-108S, and MW-117S. No significant data qualifiers were identified in relation to the detected analyte concentrations.

Based on the assessment detailed in the foregoing QA/QC summary, the laboratory data summarized in Table 1 are considered acceptable with the specific qualifications noted herein.

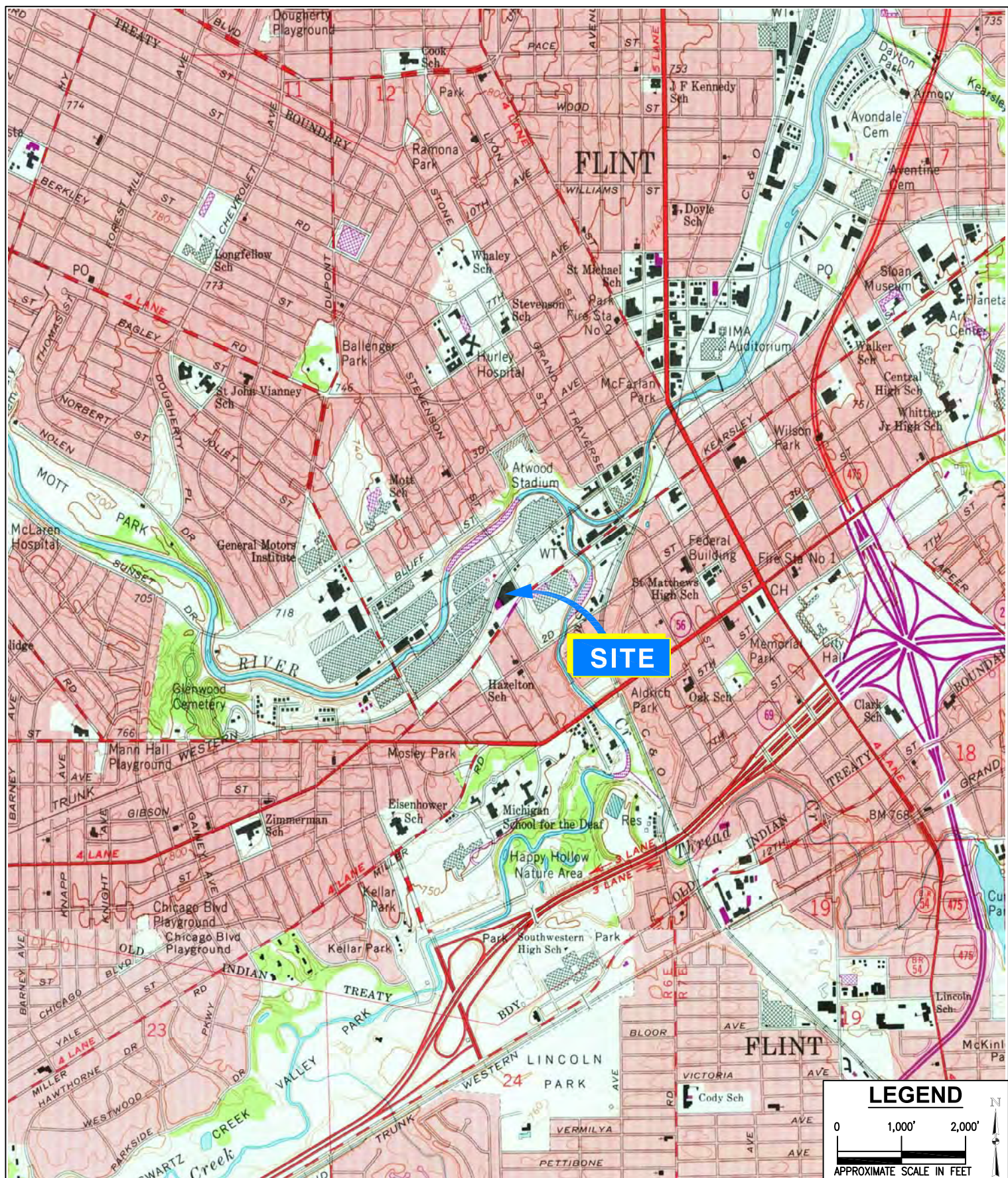
6.0 SCHEDULE

The first 2024 semi-annual monitoring event will be scheduled in March 2024.



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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:

04/06/2020

CHECKED BY:

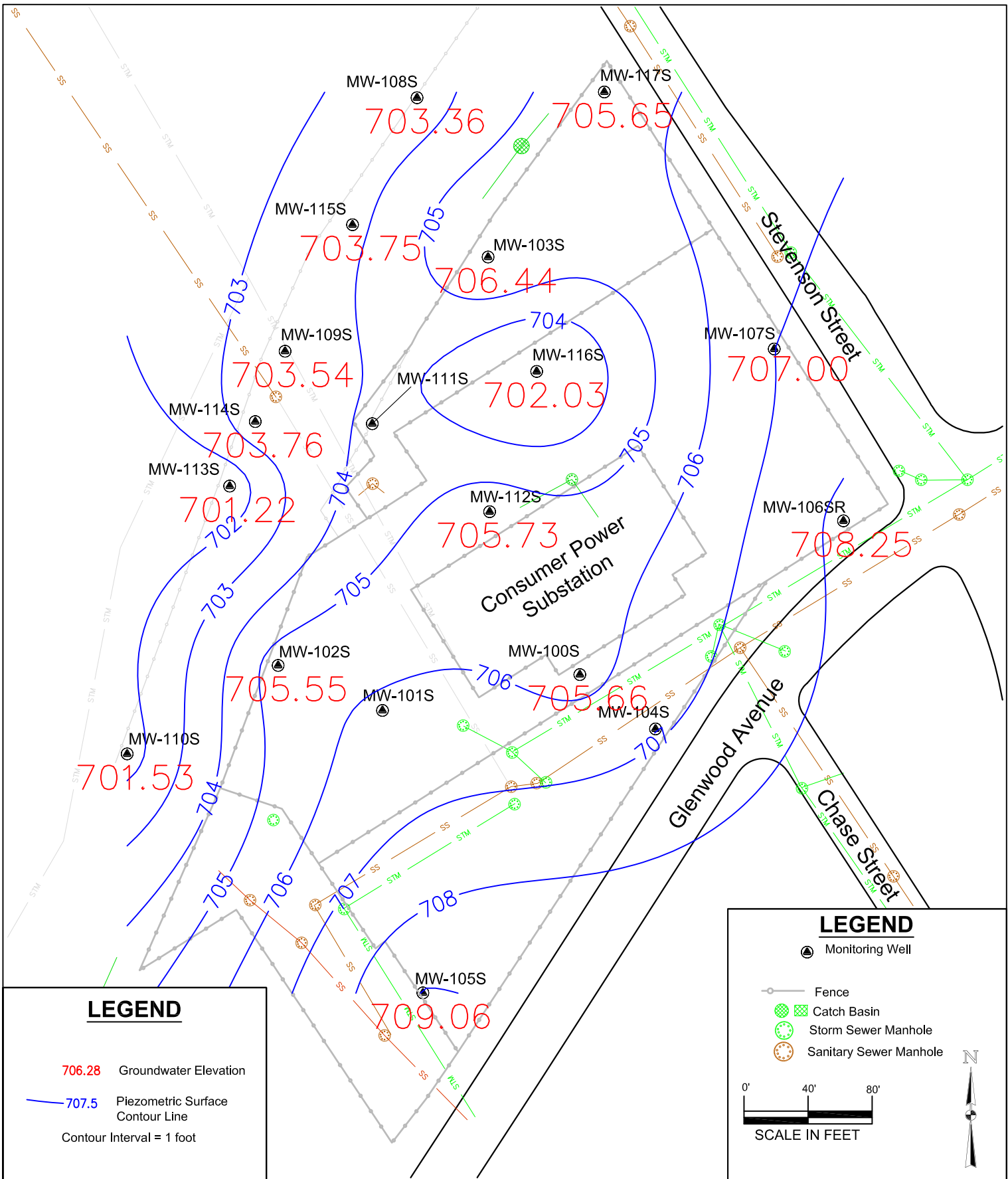
MDS

PROJECT:

11-4317-102

FIGURE:

1



LEGEND

706.28 Groundwater Elevation

707.5 Piezometric Surface Contour Line

Contour Interval = 1 foot

LEGEND

- Monitoring Well
- Fence
- Catch Basin
- Storm Sewer Manhole
- Sanitary Sewer Manhole

0' 40' 80'

SCALE IN FEET

N

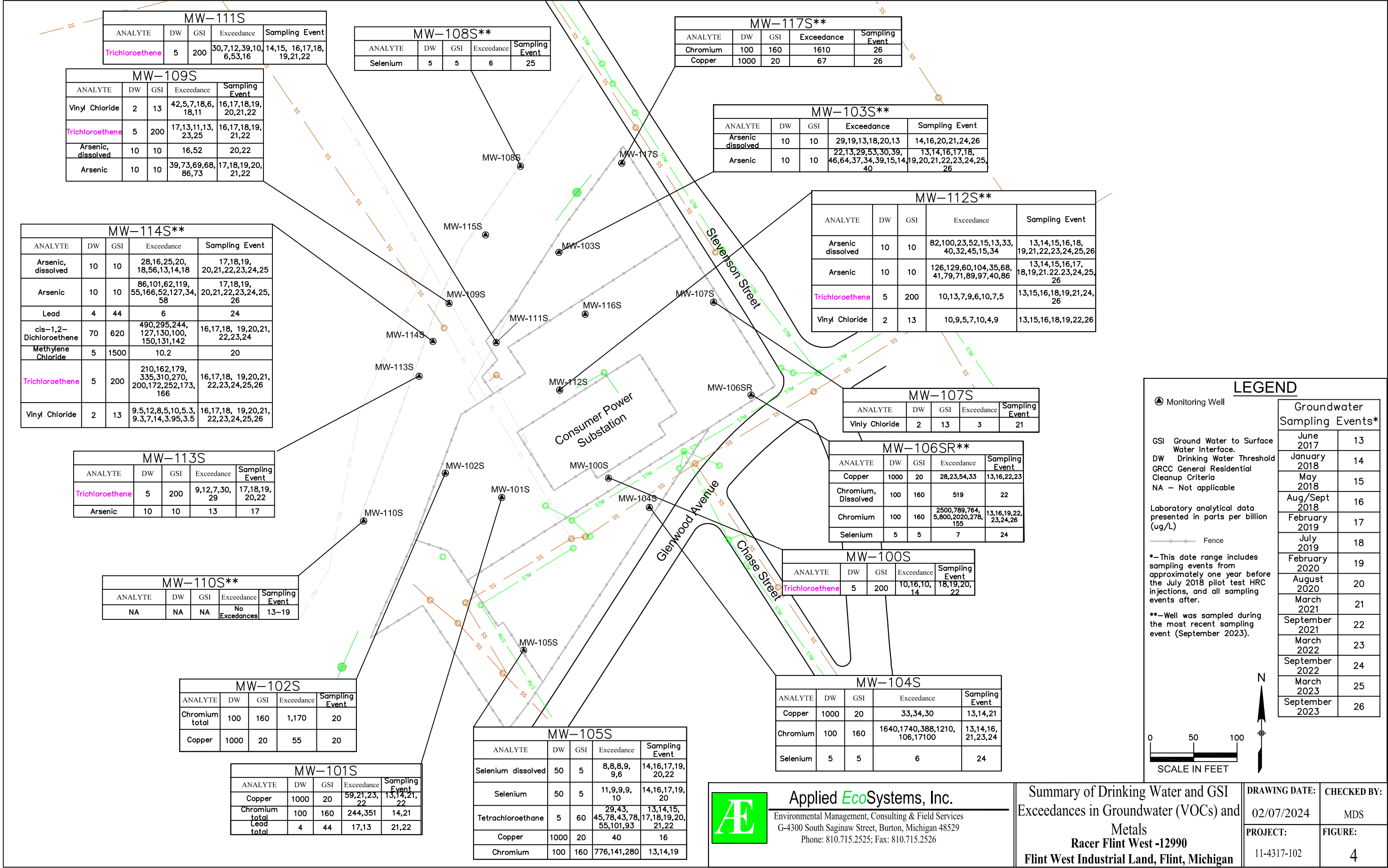
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Groundwater Contour Map
(September 14, 2023)

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

DATE:	CHECKED BY:
11/13/2023	MDS
PROJECT:	FIGURE:
11-4317-102	3



01/16/19 SB-139				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	21,000 / 3,440	16' 18'
Methylene Chloride	5	1,500	230 / 32	16' 18'
Vinyl chloride	40	260	ND / 42	16' 18'
cis-1,2-Dichloroethene	1,400	12,000	1,800 / 3,440	16' 18'

04/22/14 SB-131				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	12,160	18'
Vinyl chloride	40	260	90	18'
cis-1,2-Dichloroethene	1,400	12,000	2,820	18'

12/11/2012 SB-116				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Vinyl Chloride	40	260	260	12-13'
cis-1,2-Dichloroethene	1,400	12,000	2,160	12-13'

7/10/2014 SB-132				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	29,500 / 13,700	11.5-12' 14.5-15'
Vinyl chloride	40	260	180 / 89	11.5-12' 14.5-15'
cis-1,2-Dichloroethene	1,400	12,000	2,200	11.5-12'

12/11/2012 SB-118				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Vinyl Chloride	40	260	250	16-17'
cis-1,2-Dichloroethene	1,400	12,000	11,960	16-17'

03/13/2012 SB-104				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Benzene	100	4,000	210	7-8'

12/10/2012 SB-114				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	1,220	20-21'
Phenanthrene	56,000	2,100	2,700	7-8'

4/30/2013 SB-121				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	400	23-24'
Vinyl Chloride	40	260	110	23-24'
cis-1,2-Dichloroethene	1,400	12,000	2,970	23-24'

12/06/2012 SB-112				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Naphthalene	35,000	730	840	3.5-4.5'
1,2,4-Trimethylbenzene	2,100	570	600	3.5-4.5'
Vinyl Chloride	40	260	80	3.5-4.5'

01/16/19 SB-140				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	13,100 / 2,870	16' 19'
Methylene Chloride	5	1,500	260 / 30	16' 19'
cis-1,2-Dichloroethene	1,400	12,000	3,500 / 2,870	16' 19'

12/22/14 SB-135				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	7890.0	19'
12/22/14 SB-135				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	6540.0	21'

12/11/2012 SB-117				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	5,980	18-19'

01/16/19 SB-141				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	180 / 6,150 / 3,370	16' 18' 19'
Methylene Chloride	5	1,500	25 / 26 / 15	16' 18' 19'
cis-1,2-Dichloroethene	1,400	12,000	2,900 / 860	16' 18' 19'

12/22/14 SB-134				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	2,040	20'

4/30/2013 SB-122				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	14,400	15-16'
cis-1,2-Dichloroethene	1,400	12,000	1,600	15-16'

7/10/2014 SB-133				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4000	11,680 / 10,860 / 7,520	16.5-17' 18-19' 19.5-20'
Vinyl Chloride	40	260	46	16.5-17'
cis-1,2-Dichloroethene	1,400	12,000	1,990	16.5-17'

3/08/2012 SB-102				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	330	6-7'

04/21/14 SB-125				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	3,650	19'

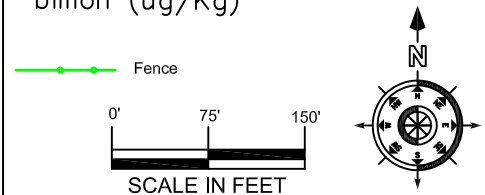
04/21/14 SB-124				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	1,420	21'

LEGEND

- Monitoring Well
- Soil boring
- Multiple soil borings in one location.
- HRC Injection boring

- Analyte Exceeds GSI and DW criteria
- Analyte Exceeds DW criteria only
- Analyte Exceeds GSI criteria only

Laboratory analytical data presented in parts per billion (ug/Kg)

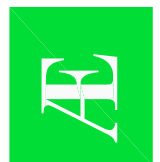


Summary of Drinking Water and GSI Exceedances in Soil 2012 - 2019

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

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CHECKED BY:	MDS
DATE:	04/08/2020
PROJECT:	11-4317-102
FIGURE:	5

MW-114S**													
ANALYTE	DW	GSI	9/5/18	2/27/20	8/19/20	3/3/21	9/16/21	3/16/22	9/13/22	3/21/23	9/14/23		
PFBS	420	NC	<9.5	<10	1.8	1.8	<2.0	1.8	1.7	2.2	<2.0		
PFHxS	51	NC	<9.5	<10	2.3	1.8	1.5	<2.0	<1.8	1.5	<2.0		
PFHxS-LN	NC	NC	<9.5	<10	1.6	NA	1.8	<2.0	<1.8	1.5	<2.0		
PFHpS	NC	NC	<9.5	<10	<1.9	<2.0	<2.0	<2.0	<1.8	<2.0	<2.0		
PFOS	16	12	31	31	29	22	21	16	30	17	14		
PFBA	NC	NC	<9.5	<20	<9.7	<10	<2.0	<9.8	<9.2	<10	<9.8		
PFPeA	NC	NC	<9.5	<10	1.1	<4.1	<2.0	<3.9	<3.7	3.4	2.8		
PFHxA	400,000	NC	<9.5	<10	<1.9	1.6	<2.0	1.7	<1.8	2.0	<2.4		
PFHpA	NC	NC	<9.5	<10	<1.9	<2.0	<2.0	<2.0	<1.8	1.3	<2.0		
PFOA	8	12,000	<9.5	<10	1.8	<2.0	1.7	2.4	2.2	2.3	<2.0		
PFNA	6	NC	<9.5	<10	<1.9	<2.0	<2.0	<2.0	<1.8	0.95	<2.0		
PFUnDA	NC	NC	<9.5	<10	<1.9	<2.0	<2.0	<2.0	<1.8	<2.0	<2.0		
PFDoDA	NC	NC	<9.5	<10	<1.9	<2.0	<2.0	<2.0	<1.8	<2.0	<2.0		
PFTDA	NC	NC	<9.5	<10	<1.9	<2.0	<2.0	<2.0	<1.8	<2.0	<2.0		
PFTeDA	NC	NC	<9.5	<10	<1.9	<2.0	<2.0	<2.0	<1.8	<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	<1.9	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					
PFTDA	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	7/17/19	9/13/22	3/21/23	9/14/23							
PFBS	420	NC	<9.7	1.5	1.1	<2.0							
PFHxS	51	NC	<9.7	2.3	1.6	2.8							
PFHpS	NC	NC	<9.7	<1.8	<2.0	<2.0							
PFOS	16	12	11	8.8	5.5	58							
PFBA	NC	NC	<1.9	<9.1	<9.8	<2.2							
PFPeA	NC	NC	<9.7	<3.6	<3.9	<4.0							
PFHxA	400,000	NC	<9.7	<1.8	<2.0	<2.0							
PFHpA	NC	NC	<9.7	<1.8	0.98	<2.0							
PFOA	8	12,000	<9.7	<1.8	<2.0	3.7							
PFNA	6	NC	<9.7	<1.8	0.84	<2.0							
PFUnDA	NC	NC	<9.7	<1.8	0.98	<2.0							
PFDoDA	NC	NC	<9.7	<1.8	<2.0	<2.0							
PFTDA	NC	NC	<9.7	<1.8	<2.0	<2.0							
PFTeDA	NC	NC	<9.7	<1.8	<2.0	<4.0							

MW-117S**													
ANALYTE	DW	GSI	3/16/22	9/13/22	3/21/23	9/14/23							
PFBA	NC	NC	<2.0	<2.0	3.0	<10							
PFHxA	400,000	NC	<2.0	<2.0	1.3	<2.0							
PFBS	420	NC	<2.0	1.5	2.0	<2.0							
PFOA	8	12,000	<2.0	<2.0	3.2	2							
PFHxS	51	NC	<2.0	<2.0	1.4	<2.0							
PFOS	16	12	<2.0	<2.0	1.9	3.1							

MW-103S**													
ANALYTE	DW	GSI	1/17/19	7/17/19	2/28/20	8/19/20	3/3/21	9/16/21	3/16/22	9/13/22	3/21/23	9/14/23	
PFHxS	51	NC	<20	<9.4	2.7	2.2	5.9	5	2.1	<1.9	2.6	2.9	
PFHxS-LN	NC	NC	<20	<9.4	<9.5	2.2	NA	3.1	2.1	<1.9	2.0	2.7	
PFHpS	NC	NC	<10	<9.4	<9.5	<2.0	<2.2	<2.0	<2.0	<1.9	<1.9	<2.0	
PFOS	16	12	90	93	84	120	91	46	74	73	9.9	58	
PFBA	NC	NC	<137	<19	<19	<10	<28	<16	<39	<190	<19	<26	
PFPeA	NC	NC	<10	<9.4	<9.5	<4.0	<4.3	<3.9	<3.9	<3.9	<3.8	<3.9	
PFHxA	400,000	NC	<10	<9.4	<9.5	<2.0	<2.2	<2.0	<2.0	<5.7	<5.7	<2.0	
PFHpA	NC	NC	<10	<9.4	<9.5	<2.0	<2.2	<2.0	<2.0	<1.9	<1.9	1.9	
PFOA	8	12,000	<10	<9.4	<9.5	<2.0	<2.2	2.7	2.6	2.5	2.5	3.7	
PFNA	6	NC	<10	<9.4	<9.5	<2.0	<2.2	<2.0	<2.0	<1.9	<1.9	<2.0	
PFDA	NC	NC	<10	<9.4	<9.5	<2.0	<2.2	<2.0	<2.0	<1.9	<1.9	<2.0	
PFUnDA	NC	NC	<10	<9.4	<9.5	<2.0	<2.2	<2.0	<2.0	<1.9	<1.9	<2.0	
PFDoDA	NC	NC	<10	<9.4	<9.5	<2.0	<2.2	<2.0	<2.0	<1.9	<1.9	<2.0	
PFTDA	NC	NC	<10	<9.4	<9.5	<2.0	<2.2	<2.0	<2.0	<1.9	<1.9	<2.0	
PFTeDA	NC	NC	<10	<9.4	<9.5	<2.0	<4.3	<3.9	<3.9	<1.9	<1.9	<3.9	
EiFOSSAA	NC	NC	<10	<9.4	<9.5	<2.0	<<5.4	<3.9	<3.9	5.1	5.1	<3.9	

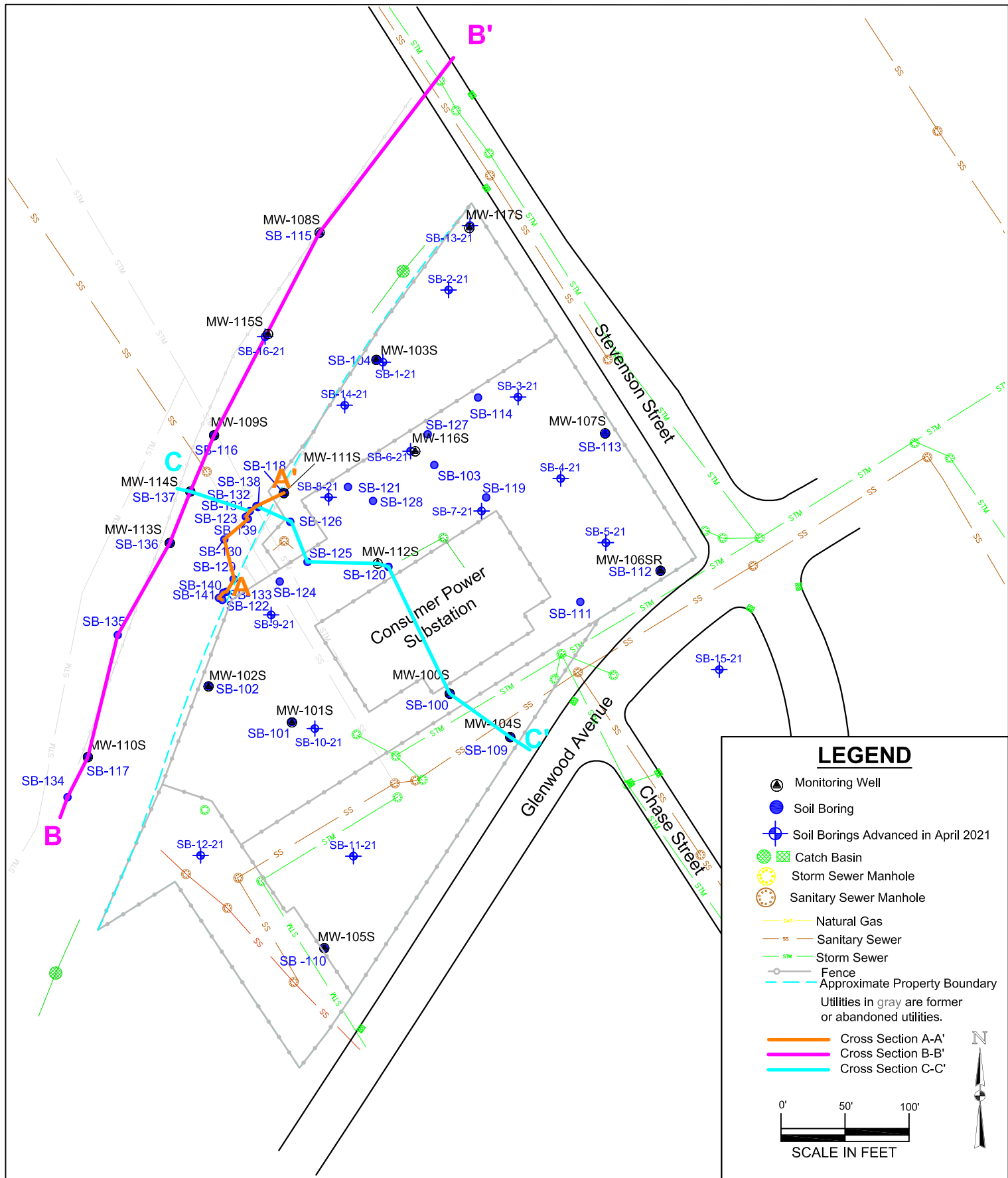
MW-111S													
ANALYTE	DW	GSI	1/28/18	5/29/18	8/30/18	7/17/19	2/27/20	8/19/20	3/3/21	9/16/21			
PFBS	420	NC	<1.9	<0.9	2.4	<9.6	<10	1.5	1.7	<2.0			
PFHxS	51	NC	1.9	1.6	3.8	<9.6	<10	1.9	<2.1	<2.0			
PFHpS	NC	NC	<1.9	<0.88	<0.88	<9.6	<10	<2.1	<2.1	<2.0			
PFOS	16	12	44	47	59	36	32	33	25	11			
PFBA	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	<0.94	<0.94	<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			
PFTDA	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	1.8	
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	<1.9	<1.9	<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	



Applied *Eco*Systems, Inc.

Environmental Management, Consulting & Field Services



Applied EcoSystems, Inc.

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

Cross Section Locations Map

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

DATE:

11/30/2022

CHECKED BY:

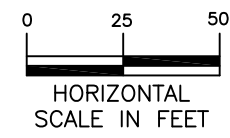
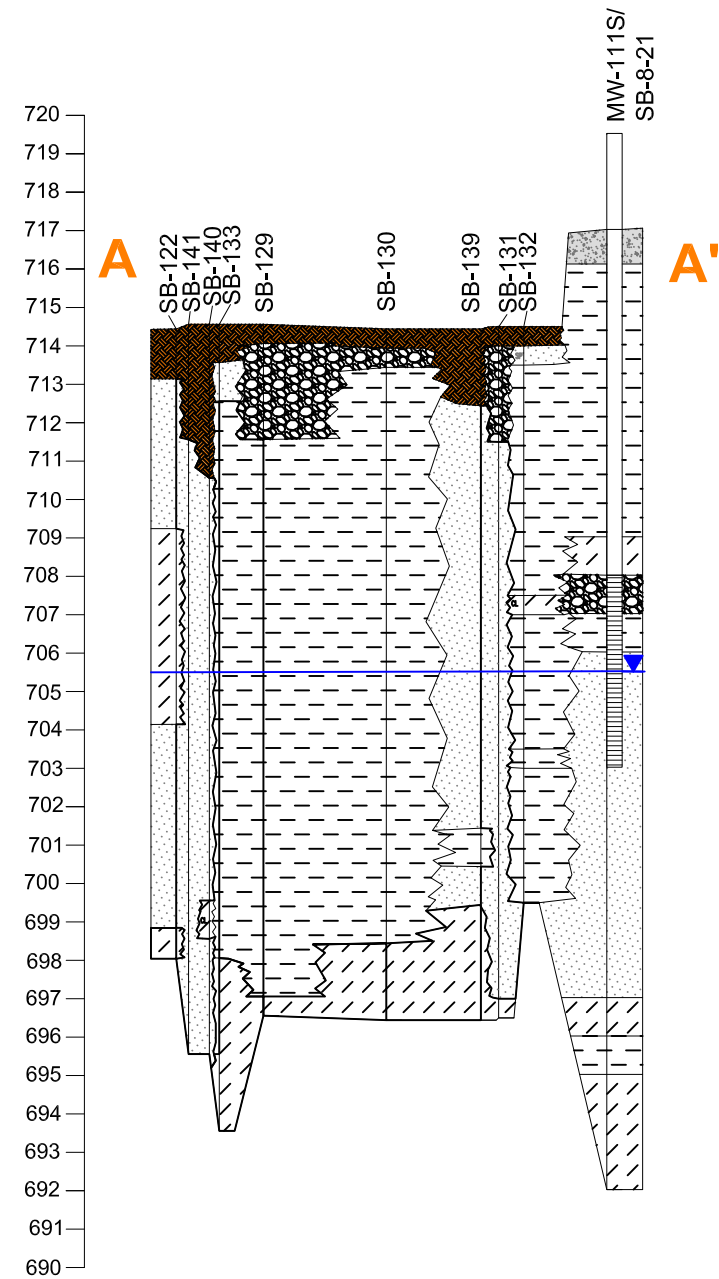
MDS

PROJECT:

11-4317-102

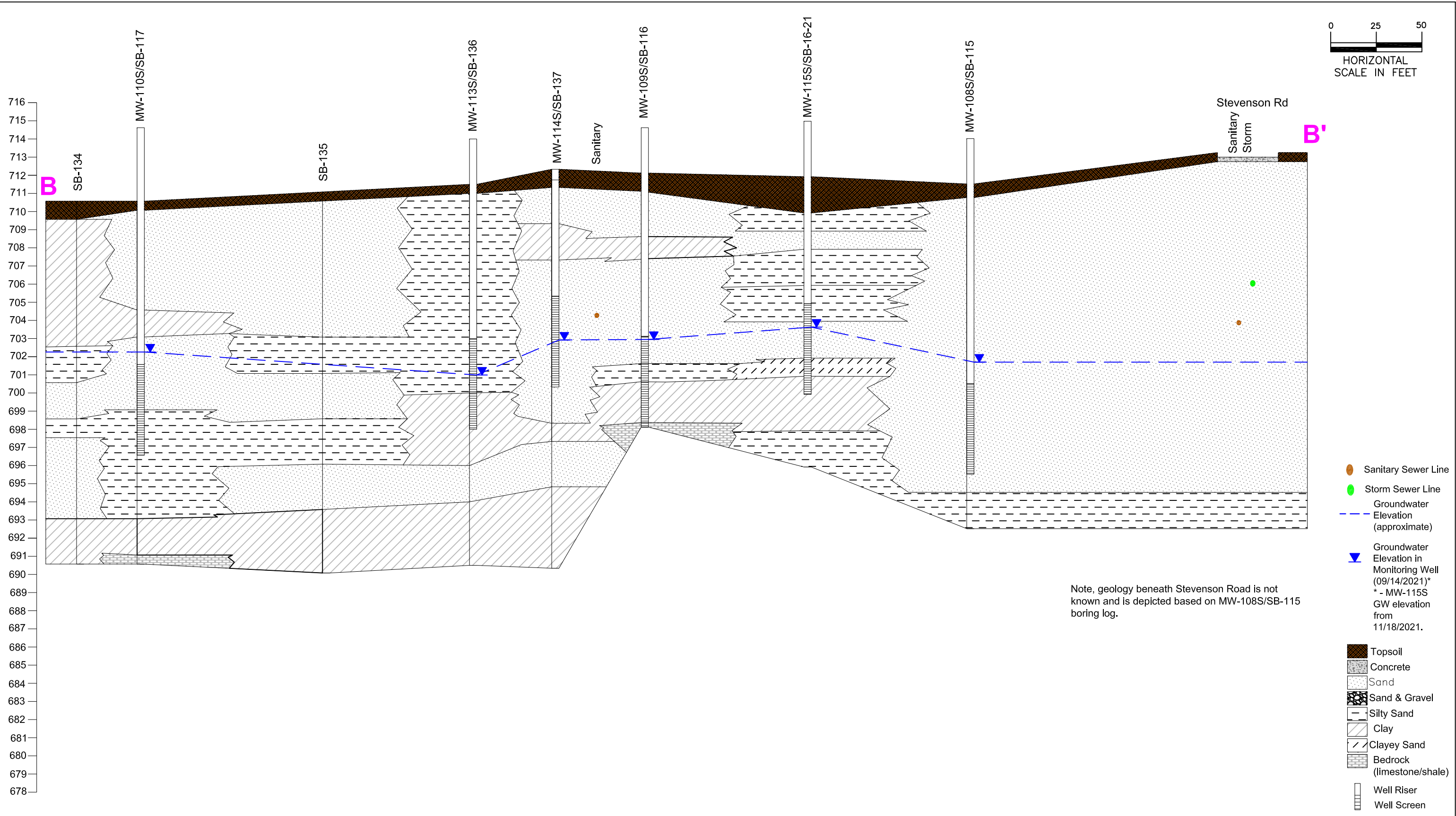
FIGURE:

1A0



- 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

	Applied EcoSystems, Inc. Environmental Management, Consulting & Field Services G-4300 South Saginaw Street, Burton, Michigan 48529 Phone: 810.715.2525; Fax: 810.715.2526	Cross Section A-A'		DRAWING DATE:	CHECKED BY:
				11/30/2022	MDS
		Racer Flint West -12990 Flint West Industrial Land, Flint, Michigan		PROJECT:	FIGURE:
		11-4317-102	1A1		



 Applied <i>Eco</i>Systems, Inc. Environmental Management, Consulting & Field Services G-4300 South Saginaw Street, Burton, Michigan 48529 Phone: 810.715.2525; Fax: 810.715.2526	Cross Section B-B'	DRAWING DATE:	CHECKED BY:
		11/30/2022	MDS
	Racer Flint West -12990 Flint West Industrial Land, Flint, Michigan	PROJECT:	FIGURE:
		11-4317-102	1A2

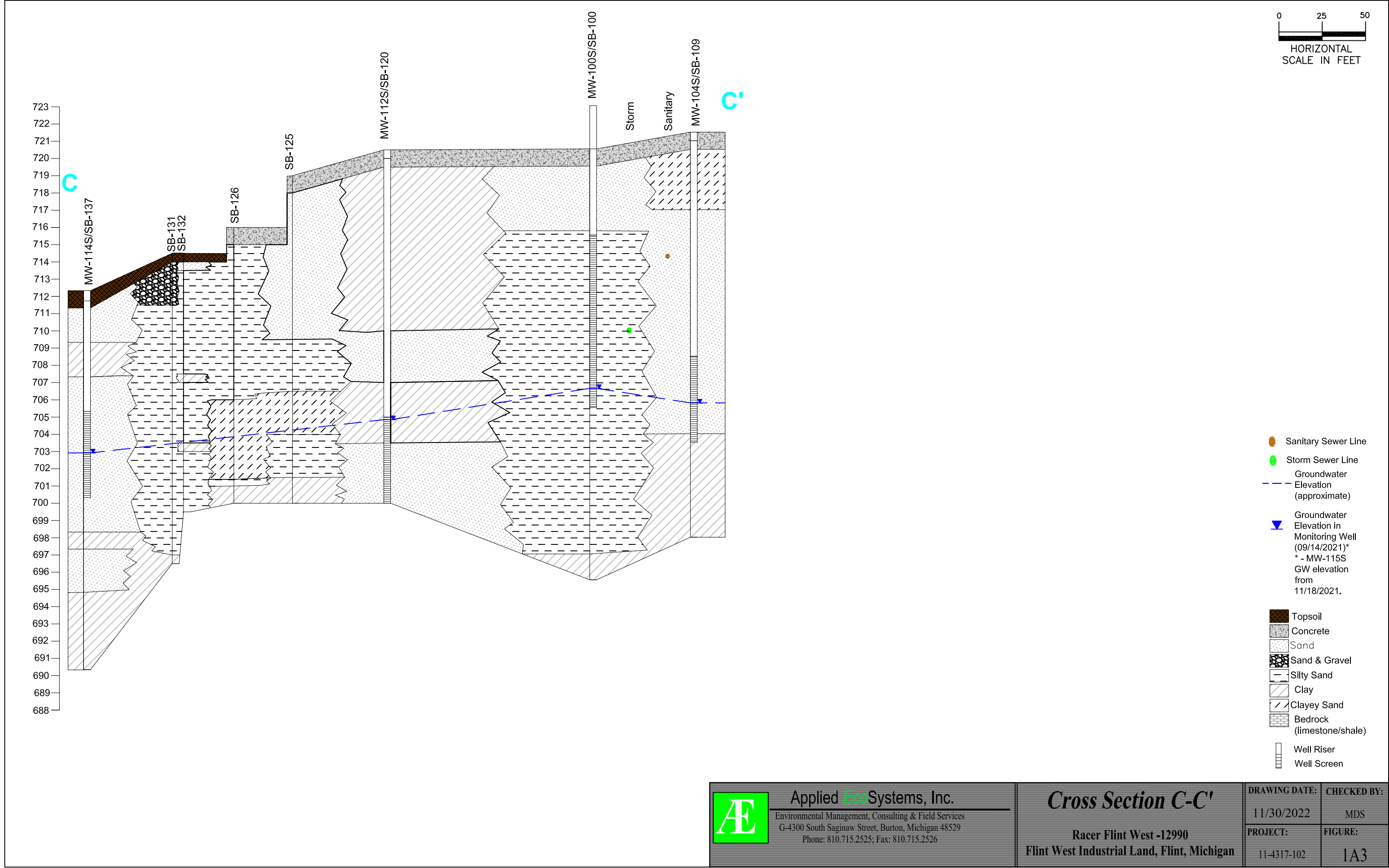


Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

Sample ID				MW-103S	MW-106SR	MW-108S	MW-110S	MW-112S	MW-114S	MW-117S	Dupe1	FB-1	EB-1	Trip Blank	MW-103S MS	MW-103S MSD
Date Collected				09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023
METALS ANALYTE (ug/L)	DW	GSI									MW-114S					
Arsenic, Dissolved	10	10		13	2	1.347	3	34	8	1.618	9	1.224	0.576	NA	252	274
Arsenic	10	10		40	3	2	6	86	58	2	57	1.256	0.485	NA	313	319
Chromium VI, Dissolved	100	11		<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	140	<50
Chromium VI	100	11		<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	140	<50
Chromium, Dissolved	100	160	G	0.181	0.575	1.099	0.107	0.208	0.173	0.45	<5	<5	2.884	NA	250	273
Chromium	100	160	G	0.342	155	0.414	1.803	0.707	0.646	1610	0.624	0.098	0.119	NA	269	262
Copper, Dissolved	1000	20	G	<5	1	<5	0.51	<5	0.576	0.752	0.767	<5	<5	NA	243	246
Copper	1000	20	G	<5	2	<5	1.899	<5	2.507	67	2.374	<5	<5	NA	247	242
Lead, Dissolved	4	44	G	<3	<3	<3	<3	<3	<3	<3	<4	<3	<3	NA	240	239
Lead	4	44	G	<3	0.251	<3	0.729	0.204	1.477	0.753	1.459	<3	<3	NA	234	243
Selenium, Dissolved	50	5		<5	3.89	6	<5	<5	<5	<5	<5	<5	<5	NA	250	245
Selenium	50	5		<5	4.114	6	<5	<5	<5	<5	<5	<5	<5	NA	278	291
Zinc, Dissolved	2400	260	G	0.904	1.279	0.789	0.939	<5	14	<5	15	<5	<5	NA	236	271
Zinc	2400	260	G	<5	<5	1.573	2.266	14	30	2.789	27	<5	<5	NA	274	269
VOC ANALYTE (ug/L)	DW	GSI									MW-114S					
Acetone	730	1700		<50	<50	<50	<50	<50	<250	<50	<50	<50	<50	<50	55	54
Acrylonitrile	2.6	2.0 (M); 1.2		<2	<2	<2	<2	<2	<10	<2	<2	<2	<2	<2	53	56
2-Butanone (MEK)	13000	2,200		<25	<25	<25	<25	<25	<130	<25	<25	<25	<25	<25	50	55
Benzene	5	200		<1	<1	<1	<1	0.2	<5	<1	<1	<1	<1	<1	51	52
n-Butylbenzene	NC	NC		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	48	49
Bromobenzene	18	NA		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	53	52
Bromochloromethane	NC	NC		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	55	56
Bromodichloromethane	80	NC		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	53	54
Bromoform	80 (A,W)	ID		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	51	53
Bromomethane	10	4.2; [5(M)]		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	53	53
sec-Butylbenzene	230	ID		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	47	48
tert-Butylbenzene	80	ID		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	50	49
Carbon disulfide	800	NC		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	50	51
Carbon tetrachloride	5	38	X	<1	<1	3	<1	<1	<5	<1	<1	<1	<1	<1	50	51
Chlorobenzene	100	25		0.18	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	51	51
Chloroethane	430	1,100		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	49	50
Chloroform	80	350		<1	<1	1	<1	<1	<5	<1	<1	<1	<1	<1	52	53
Chloromethane	260	NC		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	49	51
1,1-Dichloroethane	880	740		<1	<1	<1	<1	0.68	1.15	<1	2	<1	<1	<1	52	53
1,1-Dichloroethene	7	130		<1	<1	<1	<1	1	<5	<1	0.78	<1	<1	<1	51	52
1,2-Dibromo-3-chloropropane	NC	NC		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	0.32	52	57
1,2-Dibromoethane	NC	NC		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	53	53
1,2-Dichlorobenzene	600	13		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	0.14	50	50
1,2-Dichloroethane	5.0 (A)	360 (X)		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	50	51
1,2-Dichloropropane	5.0 (A)	230 (X)		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	54	54
1,3-Dichlorobenzene	6.6	28		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	50	50
1,4-Dichlorobenzene	75	17		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	50	50

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

Sample ID				MW-103S	MW-106SR	MW-108S	MW-110S	MW-112S	MW-114S	MW-117S	Dupe1	FB-1	EB-1	Trip Blank	MW-103S MS	MW-103S MSD	
Date Collected				09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023
VOC ANALYTE (ug/L)	DW	GSI									MW-114S						
cis-1,2-Dichloroethene	70	620		<1	<1	<1	<1	3	63	<1	70	<1	<1	<1	54	54	
cis-1,3-Dichloropropene	NC	NC		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	54	56	
Dibromochloromethane	80 (A,W)	ID		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	54	54	
Dibromomethane	230	NA		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	54	57	
Dichlorodifluoromethane	1700	ID		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	42	42	
Diethyl ether	10 (E)	ID		<10	<10	<10	<10	<10	<50	<10	<10	<10	<10	<10	53	55	
trans-1,2-Dichloroethene	100	1500		<1	<1	<1	<1	0.3	<5	<1	0.64	<1	<1	<1	51	51	
trans-1,3-Dichloropropene	NC	NC		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	52	53	
trans-1,4-Dichloro-2-butene	NC	NC		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	41	44	
Ethylbenzene	74	18		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	50	49	
2-Hexanone	1000	ID		<50	<50	<50	<50	<50	<250	<50	<50	<50	<50	<50	53	60	
Hexachloroethane	21	6.7		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	51	52	
p-Isopropyltoluene	NC	NC		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	48	48	
Isopropylbenzene	800	28		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	50	49	
VOC ANALYTE (ug/L) {cont}	DW	GSI		MW-114S													
2-Methylnaphthalene	260	19		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	1.27	55	61
4-Methyl-2-pentanone (MIBK)	1800	ID		<50	<50	<50	<50	<50	<250	<50	<50	<50	<50	<50	52	55	
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	55	54	
Methyl iodide	NC	NC		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	53	55	
Methylene chloride	5	1500		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	1.08	53	53	
Naphthalene	520	11		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	0.55	54	57	
n-Propylbenzene	80	ID		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	51	50	
Styrene	100	80		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	52	51	
1,1,1,2-Tetrachloroethane	77	ID		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	54	54	
1,1,1-Trichloroethane	200	89		<1	<1	<1	<1	<1	<5	<1	1	<1	<1	<1	51	52	
1,1,2,2-Tetrachloroethane	8.5	78 (X)		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	51	53	
1,1,2-Trichloroethane	5.0 (A)	330 (X)		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	53	54	
1,2,3-Trichlorobenzene	NC	NC		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	0.57	54	56	
1,2,3-Trichloropropane	42	NA		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	50	53	
1,2,3-Trimethylbenzene	NC	NC		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	50	49	
1,2,4-Trichlorobenzene	NC	NC		<5	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	53	54	
1,2,4-Trimethylbenzene	63 (E)	17		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	52	51	
1,3,5-Trimethylbenzene	72 (E)	45		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	51	51	
Tetrachloroethene	5	60		<1	<1	<1	<1	<1	<5	0.19	<1	<1	<1	<1	51	52	
Tetrahydrofuran	95	11000		<90	<90	<90	<90	<90	<450	<90	<90	5.9	<90	<90	46.80	48.40	
Toluene	790	270		<1	<1	<1	<1	<1	<5	<1	<1	<1	0.15	<1	51	52	
Trichloroethene	5	200		<1	<1	0.27	0.16	5	166	0.29	202	<1	<1	<1	51	51	
Trichlorofluoromethane	2600	NA		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	48	48	
Vinyl chloride	2	13		<1	<1	<1	<1	9	3.5	<1	5	<1	<1	<1	47	49	
o-Xylene	NC	NC		<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	50	49	
p,m-Xylene	NC	NC		<2	<2	<2	<2	<2	<10	<2	<2	<2	<2	<2	101	98	
Xylenes, Total	280	49		<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	151	147	

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

Sample ID				MW-103S	MW-106SR	MW-108S	MW-110S	MW-112S	MW-114S	MW-117S	Dupe1	FB-1	EB-1	Trip Blank	MW-103S MS	MW-103S MSD
Date Collected				09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023
PFA ANALYTE (ng/L)	DW	GSI									MW-114S					
PFBA	NC	NC		<26	<10	<22	21	<31	<9.9	<10.0	<9.9	<10	<10	<10	110	97
PFPeA	NC	NC		<3.9	1.5	<4.0	1.1	<3.9	2.6	<4.0	1.7	<4.1	<4.0	<4.1	94	93
4:2 FTS	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	89	98
PFHxA	400,000	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.4	<2.0	<2.0	<2.1	<2.0	<2.0	120	110
PFBS	420	NC		<2.0	2.9	<2.0	5.4	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	110	110
PFHpA	NC	NC		1.9	1.8	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	100	94
PFPeS	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	110	92
6:2 FTS	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	110	96
PFOA	8	12,000		3.7	6.1	3.7	<1.9	<1.9	<2.0	2	1.9	<2.1	<2.0	<2.0	99	96
PFHxS	51	NC		2.9	<2.0	2.8	2.4	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	100	99
PFHxS-LN	NC	NC		2.7	<2.0	2.4	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	86	83
PFHxS-BR	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	15	15
PFNA	6	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	110	96
8:2 FTS	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	110	110
PFHpS	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	89	89
PFDA	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	90	100
N-MeFOSAA	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	91	90
EtFOSAA	NC	NC		<3.9	<4.0	<4.0	<3.8	<3.9	<3.9	<4.0	<4.0	<4.1	<4.0	<4.1	88	94
PFOS	16	12		58	10	58	<1.9	10	14	3.1	14	<2.1	<2.0	<2.0	160	110
PFOS-LN	NC	NC		34	2.5	36	<1.9	4.9	7.2	<2.0	7.5	<2.1	<2.0	<2.0	110	70
PFOS-BR	NC	NC		22	8	21	<1.9	5.2	7.2	<2.0	6.7	<2.1	<2.0	<2.0	47	33
PFUnDA	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	100	88
PFNS	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	100	110
PFDoDA	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	110	110
PFDS	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	120	110
PFTTrDA	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	130	130
FOSA	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	88	95
PFTeDA	NC	NC		<3.9	<4.0	<4.0	<3.8	<3.9	<3.9	<4.0	<4.0	<4.1	<4.0	<4.1	97	100
11CI-PF3OUdS	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	100	99
9CI-PF3ONS	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	110	110
ADONA	NC	NC		<2.0	<2.0	<2.0	<1.9	<1.9	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	99	94
HFPO-DA	NC	NC		<9.9	<10	<10	<1.9	<9.7	<2.0	<10.0	<2.0	<10	<2.0	<2.0	74	88

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.

Perfluorobutanoic acid (PFBA)
Perfluoropentanoic acid (PFPeA)
Fluorotelomer sulfonic acid (4:2 FTS)
Perfluorohexanoic acid (PFHxA)
Perfluorobutane sulfonic acid (PFBS)
Perfluoroheptanoic acid (PFHpA)
Perfluoropentane sulfonic acid (PFPeS)
Fluorotelomer sulfonic acid (6:2 FTS)
Perfluorooctanoic acid (PFOA)
Perfluorohexane sulfonic acid (PFHxS)
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)
Perfluorononanoic acid (PFNA)
Fluorotelomer sulfonic acid (8:2 FTS)
Perfluoroheptane sulfonic acid (PFHpS)
Perfluorodecanoic acid (PFDA)

N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA)
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)
Perfluorooctane sulfonic acid (PFOS)
Perfluorooctane Sulfonic Acid - LN (PFOS-LN)
Perfluorooctane Sulfonic Acid - BR (PFOS-BR)
Perfluoroundecanoic acid (PFUnDA)
Perfluorononane sulfonic acid (PFNS)
Perfluorododecanoic acid (PFDoDA)
Perfluorodecane sulfonic acid (PFDS)
Perfluorotridecanoic acid (PFTrDA)
Perfluorooctane sulfonamide (FOSA)
Perfluorotetradecanoic acid (PFTeDA)
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)
4,8-dioxa-3H-perfluorononanoic acid (ADONA)
Hexafluoropropylene oxide dimer (HFPO-DA)



Analytical Laboratory Report

Report ID: S53392.01(01)
Generated on 09/26/2023

Report to
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Report Summary
Lab Sample ID(s): S53392.01-S53392.08
Project: RACER Flint West #12990
Collected Date(s): 09/14/2023
Submitted Date/Time: 09/14/2023 15:45
Sampled by: Unknown
P.O. #: 795930

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- General Report Notes (Page 2)
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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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

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

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

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

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

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

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

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

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

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

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Accreditations

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
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 (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S53392.01	MW-106SR-230914	Water	09/14/23 09:50
S53392.02	Field Blank	Water	09/14/23 09:28
S53392.03	MW-112S-230914	Water	09/14/23 10:50
S53392.04	MW-117S-230914	Water	09/14/23 12:00
S53392.05	MW-103S-230914	Water	09/14/23 12:55
S53392.06	MS MW-103S-230914	Water	09/14/23 12:55
S53392.07	MSD MW-103S-230914	Water	09/14/23 12:55
S53392.08	MW-108S-230914	Water	09/14/23 13:55



Analytical Laboratory Report

Lab Sample ID: S53392.01

Sample Tag: MW-106SR-230914

Collected Date/Time: 09/14/2023 09:50

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Plastic	HNO3	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/19/23 11:38	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/14/23 17:35, 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	f

Method: SM3500-Cr B, Run Date: 09/14/23 16:50, 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: 09/26/23 10:50, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.003	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.155	0.005	0.0000965	mg/L	5	7440-47-3	
Copper	0.002188	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	0.000251	0.003	0.000190	mg/L	5	7439-92-1	b
Selenium	0.004114	0.005	0.00209	mg/L	5	7782-49-2	b
Zinc	Not detected	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 09/26/23 10:57, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.002	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000575	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.000735	0.005	0.000377	mg/L	5	7440-50-8	bf
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	0.003890	0.005	0.00209	mg/L	5	7782-49-2	bf
Zinc, Dissolved	0.001279	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 03:27, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.33	ug/L	1	60-29-7	
Acetone	Not detected	50	8.9	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	

f-Filtered and preserved in lab

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



Analytical Laboratory Report

Lab Sample ID: S53392.01 (continued)

Sample Tag: MW-106SR-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 03:27, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Carbon disulfide	Not detected	5	0.57	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.12	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.48	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.35	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.78	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.22	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.24	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.37	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.21	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.28	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.24	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.17	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.14	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.15	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	4.2	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.13	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.17	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.21	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.35	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.61	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.17	ug/L	1	56-23-5	
Benzene	Not detected	1	0.14	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.12	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.14	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.16	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.29	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.16	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.13	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.21	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.19	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.49	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.22	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.20	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.13	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.17	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.15	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.33	ug/L	1		
o-Xylene	Not detected	1	0.19	ug/L	1	95-47-6	
Styrene	Not detected	1	0.16	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.17	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.17	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.22	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.30	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.22	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.19	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.22	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.23	ug/L	1	98-06-6	



Analytical Laboratory Report

Lab Sample ID: S53392.01 (continued)
Sample Tag: MW-106SR-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 03:27, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,4-Trimethylbenzene	Not detected	1	0.26	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.24	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.24	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.18	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.16	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.13	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.16	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.49	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.29	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.29	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.45	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.42	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.48	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.87	ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S53392.02

Sample Tag: Field Blank

Collected Date/Time: 09/14/2023 09:28

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Plastic	HNO3	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/19/23 11:38	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/14/23 17:40, 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	f

Method: SM3500-Cr B, Run Date: 09/14/23 17:00, 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: 09/26/23 10:39, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.001256	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium	0.000098	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	Not detected	0.005	0.000377	mg/L	5	7440-50-8	
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	Not detected	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 09/26/23 10:40, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.001224	0.002	0.000255	mg/L	5	7440-38-2	bf
Chromium, Dissolved	Not detected	0.005	0.0000965	mg/L	5	7440-47-3	f
Copper, Dissolved	Not detected	0.005	0.000377	mg/L	5	7440-50-8	f
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	Not detected	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 03:04, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.33	ug/L	1	60-29-7	
Acetone	Not detected	50	8.9	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	

f-Filtered and preserved in lab

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



Analytical Laboratory Report

Lab Sample ID: S53392.02 (continued)

Sample Tag: Field Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 03:04, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Carbon disulfide	Not detected	5	0.57	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.12	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.48	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.35	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.78	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.22	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.24	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.37	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.21	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.28	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.24	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.17	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.14	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.15	ug/L	1	156-59-2	
Tetrahydrofuran*	5.9	90	4.2	ug/L	1	109-99-9	J
Chloroform	Not detected	1	0.13	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.17	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.21	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.35	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.61	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.17	ug/L	1	56-23-5	
Benzene	Not detected	1	0.14	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.12	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.14	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.16	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.29	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.16	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.13	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.21	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.19	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.49	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.22	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.20	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.13	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.17	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.15	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.33	ug/L	1		
o-Xylene	Not detected	1	0.19	ug/L	1	95-47-6	
Styrene	Not detected	1	0.16	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.17	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.17	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.22	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.30	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.22	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.19	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.22	ug/L	1	108-67-8	

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



Analytical Laboratory Report

Lab Sample ID: S53392.02 (continued)

Sample Tag: Field Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 03:04, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
tert-Butylbenzene	Not detected	1	0.23	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.26	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.24	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.24	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.18	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.16	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.13	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.16	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.49	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.29	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.29	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.45	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.42	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.48	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.87	ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S53392.03

Sample Tag: MW-112S-230914

Collected Date/Time: 09/14/2023 10:50

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Plastic	HNO3	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/19/23 11:38	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/14/23 17:05, 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	f
Chromium VI	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Metals

Method: E200.8, Run Date: 09/26/23 10:59, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.086	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000707	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	Not detected	0.005	0.000377	mg/L	5	7440-50-8	
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	0.014	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 09/26/23 11:00, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.034	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000208	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	Not detected	0.005	0.000377	mg/L	5	7440-50-8	f
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	Not detected	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 03:51, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.33	ug/L	1	60-29-7	
Acetone	Not detected	50	8.9	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.57	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.12	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.48	ug/L	1	107-13-1	

f-Filtered and preserved in lab

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



Analytical Laboratory Report

Lab Sample ID: S53392.03 (continued)

Sample Tag: MW-112S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 03:51, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.35	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.78	ug/L	1	74-87-3	
Vinyl chloride	9	1	0.22	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.24	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.37	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.21	ug/L	1	75-69-4	
1,1-Dichloroethene	1	1	0.28	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.24	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	0.30	1	0.17	ug/L	1	156-60-5	J
1,1-Dichloroethane	0.68	1	0.14	ug/L	1	75-34-3	J
cis-1,2-Dichloroethene	3	1	0.15	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	4.2	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.13	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.17	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.21	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.35	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.61	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.17	ug/L	1	56-23-5	
Benzene	0.20	1	0.14	ug/L	1	71-43-2	J
1,2-Dichloroethane	Not detected	1	0.12	ug/L	1	107-06-2	
Trichloroethene	5	1	0.14	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.16	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.29	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.16	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.13	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.21	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.19	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.49	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.22	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.20	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.13	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.17	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.15	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.33	ug/L	1		
o-Xylene	Not detected	1	0.19	ug/L	1	95-47-6	
Styrene	Not detected	1	0.16	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.17	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.17	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.22	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.30	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.22	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.19	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.22	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.23	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.26	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.24	ug/L	1	135-98-8	

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



Analytical Laboratory Report

Lab Sample ID: S53392.03 (continued)

Sample Tag: MW-112S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 03:51, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
p-Isopropyltoluene	Not detected	5	0.24	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.18	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.16	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.13	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.16	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.49	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.29	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.29	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.45	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.42	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.48	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.87	ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S53392.04

Sample Tag: MW-117S-230914

Collected Date/Time: 09/14/2023 12:00

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Plastic	HNO3	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/20/23 10:56	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/14/23 17:45, 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	f

Method: SM3500-Cr B, Run Date: 09/14/23 17:10, 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: 09/26/23 11:16, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.002	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	1.61	0.005	0.0000965	mg/L	5	7440-47-3	
Copper	0.067	0.005	0.000377	mg/L	5	7440-50-8	
Lead	0.000753	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	0.002789	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 09/26/23 11:19, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.001618	0.002	0.000255	mg/L	5	7440-38-2	bf
Chromium, Dissolved	0.000450	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.000752	0.005	0.000377	mg/L	5	7440-50-8	bf
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	Not detected	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 19:51, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.33	ug/L	1	60-29-7	
Acetone	Not detected	50	8.9	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	

f-Filtered and preserved in lab

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



Analytical Laboratory Report

Lab Sample ID: S53392.04 (continued)

Sample Tag: MW-117S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 19:51, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Carbon disulfide	Not detected	5	0.57	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.12	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.48	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.35	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.78	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.22	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.24	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.37	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.21	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.28	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.24	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.17	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.14	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.15	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	4.2	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.13	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.17	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.21	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.35	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.61	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.17	ug/L	1	56-23-5	
Benzene	Not detected	1	0.14	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.12	ug/L	1	107-06-2	
Trichloroethene	0.29	1	0.14	ug/L	1	79-01-6	J
1,2-Dichloropropane	Not detected	1	0.16	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.29	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.16	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.13	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.21	ug/L	1	79-00-5	
Tetrachloroethene	0.19	1	0.19	ug/L	1	127-18-4	J
trans-1,4-Dichloro-2-butene	Not detected	1	0.49	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.22	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.20	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.13	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.17	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.15	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.33	ug/L	1		
o-Xylene	Not detected	1	0.19	ug/L	1	95-47-6	
Styrene	Not detected	1	0.16	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.17	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.17	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.22	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.30	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.22	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.19	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.22	ug/L	1	108-67-8	

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



Analytical Laboratory Report

Lab Sample ID: S53392.04 (continued)

Sample Tag: MW-117S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 19:51, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
tert-Butylbenzene	Not detected	1	0.23	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.26	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.24	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.24	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.18	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.16	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.13	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.16	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.49	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.29	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.29	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.45	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.42	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.48	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.87	ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S53392.05

Sample Tag: MW-103S-230914

Collected Date/Time: 09/14/2023 12:55

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Plastic	HNO3	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/21/23 11:08	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/14/23 17:15, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 09/26/23 11:06, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.040	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000342	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	Not detected	0.005	0.000377	mg/L	5	7440-50-8	
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	Not detected	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 09/26/23 11:38, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.013	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000181	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	Not detected	0.005	0.000377	mg/L	5	7440-50-8	f
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	0.000904	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 15:48, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.33	ug/L	1	60-29-7	
Acetone	Not detected	50	8.9	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.57	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.12	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.48	ug/L	1	107-13-1	

f-Filtered and preserved in lab

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



Analytical Laboratory Report

Lab Sample ID: S53392.05 (continued)

Sample Tag: MW-103S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 15:48, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.35	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.78	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.22	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.24	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.37	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.21	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.28	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.24	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.17	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.14	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.15	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	4.2	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.13	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.17	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.21	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.35	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.61	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.17	ug/L	1	56-23-5	
Benzene	Not detected	1	0.14	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.12	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.14	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.16	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.29	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.16	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.13	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.21	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.19	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.49	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.22	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.20	ug/L	1	106-93-4	
Chlorobenzene	0.18	1	0.13	ug/L	1	108-90-7	J
1,1,1,2-Tetrachloroethane	Not detected	1	0.17	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.15	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.33	ug/L	1		
o-Xylene	Not detected	1	0.19	ug/L	1	95-47-6	
Styrene	Not detected	1	0.16	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.17	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.17	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.22	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.30	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.22	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.19	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.22	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.23	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.26	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.24	ug/L	1	135-98-8	

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



Analytical Laboratory Report

Lab Sample ID: S53392.05 (continued)
Sample Tag: MW-103S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 15:48, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
p-Isopropyltoluene	Not detected	5	0.24	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.18	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.16	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.13	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.16	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.49	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.29	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.29	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.45	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.42	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.48	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.87	ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S53392.06

Sample Tag: MS MW-103S-230914

Collected Date/Time: 09/14/2023 12:55

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Plastic	HNO3	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/21/23 11:08	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/14/23 17:20, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI, Dissolved	0.14	0.05	0.02	mg/L	5	18540-29-9	lf
Chromium VI	0.14	0.05	0.02	mg/L	5	18540-29-9	l

Metals

Method: E200.8, Run Date: 09/26/23 11:07, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.313	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.269	0.005	0.0000965	mg/L	5	7440-47-3	
Copper	0.247	0.005	0.000377	mg/L	5	7440-50-8	
Lead	0.234	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	0.278	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.274	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 09/26/23 11:40, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.252	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.250	0.005	0.0000965	mg/L	5	7440-47-3	f
Copper, Dissolved	0.243	0.005	0.000377	mg/L	5	7440-50-8	f
Lead, Dissolved	0.240	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	0.250	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	0.236	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 21:42, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	53	10	0.33	ug/L	1	60-29-7	1
Acetone	55	50	8.9	ug/L	1	67-64-1	1
Methyl iodide	53	1	0.25	ug/L	1	74-88-4	1
Carbon disulfide	50	5	0.57	ug/L	1	75-15-0	1
tert-Methyl butyl ether (MTBE)	55	5	0.12	ug/L	1	1634-04-4	1
Acrylonitrile	53	2	0.48	ug/L	1	107-13-1	1

I-Matrix interference with internal standard f-Filtered and preserved in lab
1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S53392.06 (continued)

Sample Tag: MS MW-103S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 21:42, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Butanone (MEK)	50	25	4.7	ug/L	1	78-93-3	1
Dichlorodifluoromethane	42	5	0.35	ug/L	1	75-71-8	1
Chloromethane	49	5	0.78	ug/L	1	74-87-3	1
Vinyl chloride	47	1	0.22	ug/L	1	75-01-4	1
Bromomethane	53	5	0.24	ug/L	1	74-83-9	1
Chloroethane	49	5	0.37	ug/L	1	75-00-3	1
Trichlorofluoromethane	48	1	0.21	ug/L	1	75-69-4	1
1,1-Dichloroethene	51	1	0.28	ug/L	1	75-35-4	1
Methylene chloride	53	5	0.24	ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	51	1	0.17	ug/L	1	156-60-5	1
1,1-Dichloroethane	52	1	0.14	ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	54	1	0.15	ug/L	1	156-59-2	1
Tetrahydrofuran*	46.8	90	4.2	ug/L	1	109-99-9	J1
Chloroform	52	1	0.13	ug/L	1	67-66-3	1
Bromochloromethane	55	1	0.17	ug/L	1	74-97-5	1
1,1,1-Trichloroethane	51	1	0.21	ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	52	50	0.35	ug/L	1	108-10-1	1
2-Hexanone	53	50	0.61	ug/L	1	591-78-6	1
Carbon tetrachloride	50	1	0.17	ug/L	1	56-23-5	1
Benzene	51	1	0.14	ug/L	1	71-43-2	1
1,2-Dichloroethane	50	1	0.12	ug/L	1	107-06-2	1
Trichloroethene	51	1	0.14	ug/L	1	79-01-6	1
1,2-Dichloropropane	54	1	0.16	ug/L	1	78-87-5	1
Bromodichloromethane	53	1	0.29	ug/L	1	75-27-4	1
Dibromomethane	54	5	0.16	ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	54	1	0.19	ug/L	1	10061-01-5	1
Toluene	51	1	0.13	ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	52	1	0.19	ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	53	1	0.21	ug/L	1	79-00-5	1
Tetrachloroethene	51	1	0.19	ug/L	1	127-18-4	1
trans-1,4-Dichloro-2-butene	41	1	0.49	ug/L	1	110-57-6	1
Dibromochloromethane	54	5	0.22	ug/L	1	124-48-1	1
1,2-Dibromoethane	53	1	0.20	ug/L	1	106-93-4	1
Chlorobenzene	51	1	0.13	ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	54	1	0.17	ug/L	1	630-20-6	1
Ethylbenzene	50	1	0.15	ug/L	1	100-41-4	1
p,m-Xylene*	101	2	0.33	ug/L	1		1
o-Xylene	50	1	0.19	ug/L	1	95-47-6	1
Styrene	52	1	0.16	ug/L	1	100-42-5	1
Isopropylbenzene	50	5	0.17	ug/L	1	98-82-8	1
Bromoform	51	1	0.17	ug/L	1	75-25-2	1
1,1,1,2,2-Tetrachloroethane	51	1	0.22	ug/L	1	79-34-5	1
1,2,3-Trichloropropane	50	1	0.30	ug/L	1	96-18-4	1
n-Propylbenzene	51	1	0.22	ug/L	1	103-65-1	1
Bromobenzene	53	1	0.19	ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	51	1	0.22	ug/L	1	108-67-8	1
tert-Butylbenzene	50	1	0.23	ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	52	1	0.26	ug/L	1	95-63-6	1

1-Spiked at 50ug/L

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



Analytical Laboratory Report

Lab Sample ID: S53392.06 (continued)
Sample Tag: MS MW-103S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 21:42, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
sec-Butylbenzene	47	1	0.24	ug/L	1	135-98-8	1
p-Isopropyltoluene	48	5	0.24	ug/L	1	99-87-6	1
1,3-Dichlorobenzene	50	1	0.18	ug/L	1	541-73-1	1
1,4-Dichlorobenzene	50	1	0.16	ug/L	1	106-46-7	1
1,2-Dichlorobenzene	50	1	0.13	ug/L	1	95-50-1	1
1,2,3-Trimethylbenzene	50	1	0.16	ug/L	1	526-73-8	1
n-Butylbenzene	48	1	0.49	ug/L	1	104-51-8	1
Hexachloroethane	51	5	0.29	ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	52	5	0.29	ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	53	5	0.45	ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	54	5	0.42	ug/L	1	87-61-6	1
Naphthalene	54	5	0.48	ug/L	1	91-20-3	1
2-Methylnaphthalene	55	5	0.87	ug/L	1	91-57-6	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S53392.07

Sample Tag: MSD MW-103S-230914

Collected Date/Time: 09/14/2023 12:55

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Plastic	HNO3	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/21/23 11:08	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/14/23 17:25, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 09/26/23 11:09, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.319	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.262	0.005	0.0000965	mg/L	5	7440-47-3	
Copper	0.242	0.005	0.000377	mg/L	5	7440-50-8	
Lead	0.243	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	0.291	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.269	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 09/26/23 11:42, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.274	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.273	0.005	0.0000965	mg/L	5	7440-47-3	f
Copper, Dissolved	0.246	0.005	0.000377	mg/L	5	7440-50-8	f
Lead, Dissolved	0.239	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	0.245	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	0.271	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 22:05, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	55	10	0.33	ug/L	1	60-29-7	
Acetone	54	50	8.9	ug/L	1	67-64-1	
Methyl iodide	55	1	0.25	ug/L	1	74-88-4	1
Carbon disulfide	51	5	0.57	ug/L	1	75-15-0	1
tert-Methyl butyl ether (MTBE)	54	5	0.12	ug/L	1	1634-04-4	1
Acrylonitrile	56	2	0.48	ug/L	1	107-13-1	1

I-Matrix interference with internal standard f-Filtered and preserved in lab

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S53392.07 (continued)

Sample Tag: MSD MW-103S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 22:05, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Butanone (MEK)	55	25	4.7	ug/L	1	78-93-3	1
Dichlorodifluoromethane	42	5	0.35	ug/L	1	75-71-8	1
Chloromethane	51	5	0.78	ug/L	1	74-87-3	1
Vinyl chloride	49	1	0.22	ug/L	1	75-01-4	1
Bromomethane	53	5	0.24	ug/L	1	74-83-9	1
Chloroethane	50	5	0.37	ug/L	1	75-00-3	1
Trichlorofluoromethane	48	1	0.21	ug/L	1	75-69-4	1
1,1-Dichloroethene	52	1	0.28	ug/L	1	75-35-4	1
Methylene chloride	53	5	0.24	ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	51	1	0.17	ug/L	1	156-60-5	1
1,1-Dichloroethane	53	1	0.14	ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	54	1	0.15	ug/L	1	156-59-2	1
Tetrahydrofuran*	48.4	90	4.2	ug/L	1	109-99-9	J1
Chloroform	53	1	0.13	ug/L	1	67-66-3	1
Bromochloromethane	56	1	0.17	ug/L	1	74-97-5	1
1,1,1-Trichloroethane	52	1	0.21	ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	55	50	0.35	ug/L	1	108-10-1	1
2-Hexanone	60	50	0.61	ug/L	1	591-78-6	1
Carbon tetrachloride	51	1	0.17	ug/L	1	56-23-5	1
Benzene	52	1	0.14	ug/L	1	71-43-2	1
1,2-Dichloroethane	51	1	0.12	ug/L	1	107-06-2	1
Trichloroethene	51	1	0.14	ug/L	1	79-01-6	1
1,2-Dichloropropane	54	1	0.16	ug/L	1	78-87-5	1
Bromodichloromethane	54	1	0.29	ug/L	1	75-27-4	1
Dibromomethane	57	5	0.16	ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	56	1	0.19	ug/L	1	10061-01-5	1
Toluene	52	1	0.13	ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	53	1	0.19	ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	54	1	0.21	ug/L	1	79-00-5	1
Tetrachloroethene	52	1	0.19	ug/L	1	127-18-4	1
trans-1,4-Dichloro-2-butene	44	1	0.49	ug/L	1	110-57-6	1
Dibromochloromethane	54	5	0.22	ug/L	1	124-48-1	1
1,2-Dibromoethane	53	1	0.20	ug/L	1	106-93-4	1
Chlorobenzene	51	1	0.13	ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	54	1	0.17	ug/L	1	630-20-6	1
Ethylbenzene	49	1	0.15	ug/L	1	100-41-4	1
p,m-Xylene*	98	2	0.33	ug/L	1		1
o-Xylene	49	1	0.19	ug/L	1	95-47-6	1
Styrene	51	1	0.16	ug/L	1	100-42-5	1
Isopropylbenzene	49	5	0.17	ug/L	1	98-82-8	1
Bromoform	53	1	0.17	ug/L	1	75-25-2	1
1,1,2,2-Tetrachloroethane	53	1	0.22	ug/L	1	79-34-5	1
1,2,3-Trichloropropane	53	1	0.30	ug/L	1	96-18-4	1
n-Propylbenzene	50	1	0.22	ug/L	1	103-65-1	1
Bromobenzene	52	1	0.19	ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	51	1	0.22	ug/L	1	108-67-8	1
tert-Butylbenzene	49	1	0.23	ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	51	1	0.26	ug/L	1	95-63-6	1

1-Spiked at 50ug/L

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



Analytical Laboratory Report

Lab Sample ID: S53392.07 (continued)
Sample Tag: MSD MW-103S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 22:05, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
sec-Butylbenzene	48	1	0.24	ug/L	1	135-98-8	1
p-Isopropyltoluene	48	5	0.24	ug/L	1	99-87-6	1
1,3-Dichlorobenzene	50	1	0.18	ug/L	1	541-73-1	1
1,4-Dichlorobenzene	50	1	0.16	ug/L	1	106-46-7	1
1,2-Dichlorobenzene	50	1	0.13	ug/L	1	95-50-1	1
1,2,3-Trimethylbenzene	49	1	0.16	ug/L	1	526-73-8	1
n-Butylbenzene	49	1	0.49	ug/L	1	104-51-8	1
Hexachloroethane	52	5	0.29	ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	57	5	0.29	ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	54	5	0.45	ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	56	5	0.42	ug/L	1	87-61-6	1
Naphthalene	57	5	0.48	ug/L	1	91-20-3	1
2-Methylnaphthalene	61	5	0.87	ug/L	1	91-57-6	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S53392.08

Sample Tag: MW-108S-230914

Collected Date/Time: 09/14/2023 13:55

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Plastic	HNO3	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/20/23 10:56	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/14/23 17:50, 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	f

Method: SM3500-Cr B, Run Date: 09/14/23 17:30, 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: 09/26/23 11:04, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.002	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000414	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	Not detected	0.005	0.000377	mg/L	5	7440-50-8	
Lead	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	0.006	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.001573	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 09/26/23 11:21, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.001347	0.002	0.000255	mg/L	5	7440-38-2	bf
Chromium, Dissolved	0.001099	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	Not detected	0.005	0.000377	mg/L	5	7440-50-8	f
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	0.006	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	0.000789	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 20:11, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.33	ug/L	1	60-29-7	
Acetone	Not detected	50	8.9	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	

f-Filtered and preserved in lab

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



Analytical Laboratory Report

Lab Sample ID: S53392.08 (continued)

Sample Tag: MW-108S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 20:11, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Carbon disulfide	Not detected	5	0.57	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.12	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.48	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.35	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.78	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.22	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.24	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.37	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.21	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.28	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.24	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.17	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.14	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.15	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	4.2	ug/L	1	109-99-9	
Chloroform	1	1	0.13	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.17	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.21	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.35	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.61	ug/L	1	591-78-6	
Carbon tetrachloride	3	1	0.17	ug/L	1	56-23-5	
Benzene	Not detected	1	0.14	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.12	ug/L	1	107-06-2	
Trichloroethene	0.27	1	0.14	ug/L	1	79-01-6	J
1,2-Dichloropropane	Not detected	1	0.16	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.29	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.16	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.13	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.21	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.19	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.49	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.22	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.20	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.13	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.17	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.15	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.33	ug/L	1		
o-Xylene	Not detected	1	0.19	ug/L	1	95-47-6	
Styrene	Not detected	1	0.16	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.17	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.17	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.22	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.30	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.22	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.19	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.22	ug/L	1	108-67-8	

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



Analytical Laboratory Report

Lab Sample ID: S53392.08 (continued)
Sample Tag: MW-108S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 20:11, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
tert-Butylbenzene	Not detected	1	0.23	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.26	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.24	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.24	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.18	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.16	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.13	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.16	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.49	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.29	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.29	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.45	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.42	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.48	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.87	ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S53392

Client:APPLIED (Applied Ecosystems)

Project: RACER Flint West #12990

Submitted:09/14/2023 15:45 Login User: PFD

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.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 3.8
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontracted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☒ Yes ☐ No ☐ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☒ Yes ☐ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☒ Yes ☐ No ☐ N/A	Samples require laboratory filtration Metals
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S53392 Submitted: 09/14/2023 15:45

Client: APPLIED (Applied Ecosystems)

Project: RACER Flint West #12990

Initial Preservation Check: 09/14/2023 16:21 PFD

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
S53392.01	125ml Plastic HNO3	<2			
S53392.02	125ml Plastic HNO3	<2			
S53392.03	125ml Plastic HNO3	<2			
S53392.04	125ml Plastic HNO3	<2			
S53392.05	125ml Plastic HNO3	<2			
S53392.06	125ml Plastic HNO3	<2			
S53392.07	125ml Plastic HNO3	<2			
S53392.08	125ml Plastic HNO3	<2			

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE 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.

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RACER Flint West #12990 SAMPLER(S) - PLEASE PRINT/SIGN NAME
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 GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
CODE: SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIFE A=AIR W=WASTE

Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	VOCs	Metals, dissolved*	Metals, Total*	Certifications
5338201	9/14	9:50 MW-10652-230914	W	5	X	X	X					X	X	X	☐ OHIO VAP ☐ Drinking Water
02	9/14	9:28 Field Blank	W	5	X	X	X					X	X	X	☐ DoD ☐ NPDES
03	9/14	10:50 MW-1125-230914	W	5	X	X	X					X	X	X	Project Locations
04	9/14	12:00 MW-1175-230914	W	5	X	X	X					X	X	X	☐ Detroit ☐ New York
05	9/14	12:55 MW-1035-230914	W	5	X	X	X					X	X	X	☐ Other
06	9/14	12:55 MS MW-1035-230914	W	5	X	X	X					X	X	X	Special Instructions
07	9/14	12:55 MSD MW-1035-230914	W	5	X	X	X					X	X	X	* - Metals list includes:
08	9/14	13:55 MW-1095-230914	W	5	X	X	X					X	X	X	Ar, Cr-total, CR-Hex, Cu
~~09~~	~~9/14~~	~~MW-1145-230914~~	~~W~~	~~5~~	~~X~~	~~X~~	~~X~~					~~X~~	~~X~~	~~X~~	Pb, Se, Zn
~~10~~	~~9/14~~	~~DUP-1-230914~~	~~W~~	~~5~~	~~X~~	~~X~~	~~X~~					~~X~~	~~X~~	~~X~~	report down to MCLs

RELINQUISHED BY: AE DATE 9/14/13 TIME 14:42
SIGNATURE/ORGANIZATION
RECEIVED BY: Monica Wallingford DATE 9/14/13 TIME 14:42
SIGNATURE/ORGANIZATION
RELINQUISHED BY: John Wallingford DATE 9/14/13 TIME 15:45
SIGNATURE/ORGANIZATION
RECEIVED BY: Rodney Abke DATE 9/14/13 TIME 15:45
SIGNATURE/ORGANIZATION

RELINQUISHED BY: DATE TIME
SIGNATURE/ORGANIZATION
RECEIVED BY: DATE TIME
SIGNATURE/ORGANIZATION
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
NOTES: TEMP. ON ARRIVAL 3.8



Analytical Laboratory Report

Report ID: S53396.01(01)
Generated on 10/05/2023

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

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

Report Summary
Lab Sample ID(s): S53396.01-S53396.08
Project: RACER Flint West #12990
Collected Date(s): 09/14/2023
Submitted Date/Time: 09/14/2023 15:45
Sampled by: Unknown
P.O. #: 795930

Table of Contents

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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

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

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

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

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

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

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

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

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

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

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

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations

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

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
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
PFTTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6



Analytical Laboratory Report

Sample Summary (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S53396.01	MW-106SR-230914	Water	09/14/23 09:50
S53396.02	Field Blank	Water	09/14/23 09:28
S53396.03	MW-112S-230914	Water	09/14/23 10:50
S53396.04	MW-117S-230914	Water	09/14/23 12:00
S53396.05	MW-103S-230914	Water	09/14/23 12:55
S53396.06	MS MW-103S-230914	Water	09/14/23 12:55
S53396.07	MSD MW-103S-230914	Water	09/14/23 12:55
S53396.08	MW-108S-230914	Water	09/14/23 13:55



Analytical Laboratory Report

Lab Sample ID: S53396.01

Sample Tag: MW-106SR-230914

Collected Date/Time: 09/14/2023 09:50

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.99/6.54/11	ASTMD7979-19M	09/18/23 10:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/18/23 18:07, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.02	375-22-4	
PFPeA*	1.5	4.0	1.0	ng/L	2.02	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.02	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2.02	307-24-4	
PFBS*	2.9	2.0	1.4	ng/L	2.02	375-73-5	
PFHpA*	1.8	2.0	1.4	ng/L	2.02	375-85-9	J
PFPeS*	Not detected	2.0	1.8	ng/L	2.02	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.02	27619-97-2	
PFOA*	6.1	2.0	1.6	ng/L	2.02	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	2.02	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2.02	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.02	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.02	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.02	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.02	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.02	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.02	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2.02	2991-50-6	
PFOS*	10	2.0	2.0	ng/L	2.02	1763-23-1	
PFOS-LN*	2.5	2.0	2.0	ng/L	2.02	1763-23-1-LN	
PFOS-BR*	8.0	2.0	2.0	ng/L	2.02	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.02	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.02	68259-12-1	
PfDoDA*	Not detected	2.0	1.6	ng/L	2.02	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.02	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	2.02	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.02	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2.02	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.02	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.02	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.02	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2.02	13252-13-6	

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



Analytical Laboratory Report

Lab Sample ID: S53396.02

Sample Tag: Field Blank

Collected Date/Time: 09/14/2023 09:28

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.36/6.53/10	ASTMD7979-19M	09/18/23 10:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/18/23 18:26, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.07	375-22-4	
PFPeA*	Not detected	4.1	1.0	ng/L	2.07	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.07	757124-72-4	
PFHxA*	Not detected	2.1	1.4	ng/L	2.07	307-24-4	
PFBS*	Not detected	2.1	1.4	ng/L	2.07	375-73-5	
PFHpA*	Not detected	2.1	1.4	ng/L	2.07	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.07	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.07	27619-97-2	
PFOA*	Not detected	2.1	1.7	ng/L	2.07	335-67-1	
PFHxS*	Not detected	2.1	1.7	ng/L	2.07	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.07	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.07	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.07	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.07	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.07	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.07	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.07	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.07	2991-50-6	
PFOS*	Not detected	2.1	2.0	ng/L	2.07	1763-23-1	
PFOS-LN*	Not detected	2.1	2.0	ng/L	2.07	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.0	ng/L	2.07	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.07	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.07	68259-12-1	
PFDODA*	Not detected	2.1	1.7	ng/L	2.07	307-55-1	
PFDS*	Not detected	2.1	1.4	ng/L	2.07	335-77-3	
PFTDA*	Not detected	2.1	1.2	ng/L	2.07	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.07	754-91-6	
PFTeDA*	Not detected	4.1	1.9	ng/L	2.07	376-06-7	
11CI-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.07	763051-92-9	
9CI-PF3ONS*	Not detected	2.1	1.4	ng/L	2.07	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.07	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.07	13252-13-6	



Analytical Laboratory Report

Lab Sample ID: S53396.03
Sample Tag: MW-112S-230914
Collected Date/Time: 09/14/2023 10:50
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.22/6.56/11	ASTMD7979-19M	09/18/23 10:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/18/23 18:46, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	31	9.7	ng/L	1.94	375-22-4	X
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	1.9	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	1.9	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*	10	1.9	1.9	ng/L	1.94	1763-23-1	
PFOS-LN*	4.9	1.9	1.9	ng/L	1.94	1763-23-1-LN	
PFOS-BR*	5.2	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	
PFTTrDA*	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	

X-Elevated reporting limit due to matrix interference



Analytical Laboratory Report

Lab Sample ID: S53396.04

Sample Tag: MW-117S-230914

Collected Date/Time: 09/14/2023 12:00

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.04/6.50/11	ASTMD7979-19M	09/18/23 10:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/18/23 19:05, 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	2.0	2.0	ng/L	1.99	27619-97-2	
PFOA*	2.0	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	2.0	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*	3.1	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	
PFTTrDA*	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: S53396.05
Sample Tag: MW-103S-230914
Collected Date/Time: 09/14/2023 12:55
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.09/6.52/11	ASTMD7979-19M	09/18/23 10:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/18/23 19:25, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	26	9.9	ng/L	1.97	375-22-4	X
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*	1.9	2.0	1.4	ng/L	1.97	375-85-9	J
PFPeS*	Not detected	2.0	1.8	ng/L	1.97	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.97	27619-97-2	
PFOA*	3.7	2.0	1.6	ng/L	1.97	335-67-1	
PFHxS*	2.9	2.0	1.6	ng/L	1.97	355-46-4	
PFHxS-LN*	2.7	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	2.0	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*	58	2.0	1.9	ng/L	1.97	1763-23-1	
PFOS-LN*	34	2.0	1.9	ng/L	1.97	1763-23-1-LN	
PFOS-BR*	22	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	
PFTTrDA*	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	

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: S53396.06
Sample Tag: MS MW-103S-230914
Collected Date/Time: 09/14/2023 12:55
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.10/6.52/11	ASTMD7979-19M	09/18/23 10:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/18/23 19:44, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	110	9.9	9.9	ng/L	1.97	375-22-4	1
PFPeA*	94	3.9	0.99	ng/L	1.97	2706-90-3	1
4:2 FTSA*	89	2.0	1.6	ng/L	1.97	757124-72-4	1
PFHxA*	120	2.0	1.4	ng/L	1.97	307-24-4	1
PFBS*	110	2.0	1.4	ng/L	1.97	375-73-5	1
PFHpA*	100	2.0	1.4	ng/L	1.97	375-85-9	1
PFPeS*	110	2.0	1.8	ng/L	1.97	2706-91-4	1
6:2 FTSA*	110	2.0	2.0	ng/L	1.97	27619-97-2	1
PFOA*	99	2.0	1.6	ng/L	1.97	335-67-1	1
PFHxS*	100	2.0	1.6	ng/L	1.97	355-46-4	1
PFHxS-LN*	86	2.0	1.6	ng/L	1.97	355-46-4-LN	1
PFHxS-BR*	15	2.0	1.6	ng/L	1.97	355-46-4-BR	1
PFNA*	110	2.0	1.8	ng/L	1.97	375-95-1	1
8:2 FTSA*	110	2.0	0.99	ng/L	1.97	39108-34-4	1
PFHpS*	89	2.0	2.0	ng/L	1.97	375-92-8	1
PFDA*	90	2.0	2.0	ng/L	1.97	335-76-2	1
N-MeFOSAA*	91	2.0	2.0	ng/L	1.97	2355-31-9	1
EtFOSAA*	88	3.9	2.0	ng/L	1.97	2991-50-6	1
PFOS*	160	2.0	1.9	ng/L	1.97	1763-23-1	1
PFOS-LN*	110	2.0	1.9	ng/L	1.97	1763-23-1-LN	1
PFOS-BR*	47	2.0	1.9	ng/L	1.97	1763-23-1-BR	1
PFUnDA*	100	2.0	1.4	ng/L	1.97	2058-94-8	1
PFNS*	100	2.0	1.4	ng/L	1.97	68259-12-1	1
PFDODA*	110	2.0	1.6	ng/L	1.97	307-55-1	1
PFDS*	120	2.0	1.4	ng/L	1.97	335-77-3	1
PFTTrDA*	130	2.0	1.2	ng/L	1.97	72629-94-8	1
FOSA*	88	2.0	1.8	ng/L	1.97	754-91-6	1
PFTeDA*	97	3.9	1.8	ng/L	1.97	376-06-7	1
11Cl-PF3OUdS*	100	2.0	1.8	ng/L	1.97	763051-92-9	1
9Cl-PF3ONS*	110	2.0	1.4	ng/L	1.97	756426-58-1	1
ADONA*	99	2.0	2.0	ng/L	1.97	919005-14-4	1
HFPO-DA*	74	9.9	2.0	ng/L	1.97	13252-13-6	1

1-spiked @ 98.5 ng/L



Analytical Laboratory Report

Lab Sample ID: S53396.07
Sample Tag: MSD MW-103S-230914
Collected Date/Time: 09/14/2023 12:55
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.15/6.50/11	ASTMD7979-19M	09/18/23 10:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/18/23 20:04, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	97	9.8	9.8	ng/L	1.95	375-22-4	1
PFPeA*	93	3.9	0.98	ng/L	1.95	2706-90-3	1
4:2 FTSA*	98	2.0	1.6	ng/L	1.95	757124-72-4	1
PFHxA*	110	2.0	1.4	ng/L	1.95	307-24-4	1
PFBS*	110	2.0	1.4	ng/L	1.95	375-73-5	1
PFHpA*	94	2.0	1.4	ng/L	1.95	375-85-9	1
PFPeS*	92	2.0	1.8	ng/L	1.95	2706-91-4	1
6:2 FTSA*	96	2.0	2.0	ng/L	1.95	27619-97-2	1
PFOA*	96	2.0	1.6	ng/L	1.95	335-67-1	1
PFHxS*	99	2.0	1.6	ng/L	1.95	355-46-4	1
PFHxS-LN*	83	2.0	1.6	ng/L	1.95	355-46-4-LN	1
PFHxS-BR*	15	2.0	1.6	ng/L	1.95	355-46-4-BR	1
PFNA*	96	2.0	1.8	ng/L	1.95	375-95-1	1
8:2 FTSA*	110	2.0	0.98	ng/L	1.95	39108-34-4	1
PFHpS*	89	2.0	2.0	ng/L	1.95	375-92-8	1
PFDA*	100	2.0	2.0	ng/L	1.95	335-76-2	1
N-MeFOSAA*	90	2.0	2.0	ng/L	1.95	2355-31-9	1
EtFOSAA*	94	3.9	2.0	ng/L	1.95	2991-50-6	1
PFOS*	110	2.0	1.9	ng/L	1.95	1763-23-1	1
PFOS-LN*	70	2.0	1.9	ng/L	1.95	1763-23-1-LN	1
PFOS-BR*	33	2.0	1.9	ng/L	1.95	1763-23-1-BR	1
PFUnDA*	88	2.0	1.4	ng/L	1.95	2058-94-8	1
PFNS*	110	2.0	1.4	ng/L	1.95	68259-12-1	1
PFDODA*	110	2.0	1.6	ng/L	1.95	307-55-1	1
PFDS*	110	2.0	1.4	ng/L	1.95	335-77-3	1
PFTTrDA*	130	2.0	1.2	ng/L	1.95	72629-94-8	1
FOSA*	95	2.0	1.8	ng/L	1.95	754-91-6	1
PFTeDA*	100	3.9	1.8	ng/L	1.95	376-06-7	1
11Cl-PF3OUdS*	99	2.0	1.8	ng/L	1.95	763051-92-9	1
9Cl-PF3ONS*	110	2.0	1.4	ng/L	1.95	756426-58-1	1
ADONA*	94	2.0	2.0	ng/L	1.95	919005-14-4	1
HFPO-DA*	88	9.8	2.0	ng/L	1.95	13252-13-6	1

1-spiked @ 97.5 ng/L



Analytical Laboratory Report

Lab Sample ID: S53396.08

Sample Tag: MW-108S-230914

Collected Date/Time: 09/14/2023 13:55

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.00/6.51/11	ASTMD7979-19M	09/18/23 10:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/18/23 20:23, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	22	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	2.0	2.0	ng/L	2	27619-97-2	
PFOA*	3.7	2.0	1.6	ng/L	2	335-67-1	
PFHxS*	2.8	2.0	1.6	ng/L	2	355-46-4	
PFHxS-LN*	2.4	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	2.0	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*	58	2.0	2.0	ng/L	2	1763-23-1	
PFOS-LN*	36	2.0	2.0	ng/L	2	1763-23-1-LN	
PFOS-BR*	21	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	
PFTTrDA*	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

Merit Laboratories Login Checklist

Lab Set ID:S53396

Client:APPLIED (Applied Ecosystems)

Project: RACER Flint West #12990

Submitted:09/14/2023 15:45 Login User: PFD

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. ☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer #	IR 3.8
02. ☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun	
03. ☐ Yes ☒ No ☐ N/A	Samples shipped	
04. ☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box	
05. ☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody		
06. ☒ Yes ☐ No ☐ N/A	COC adequately filled out	
07. ☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab	
08. ☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC	
09. ☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:	
Preservation		
10. ☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation	
11. ☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)	
12. ☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions		
13. ☒ Yes ☐ No ☐ N/A	All bottles intact	Field Blank not present
14. ☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used	
15. ☒ Yes ☐ No ☐ N/A	Merit bottles used	
16. ☒ Yes ☐ No ☐ N/A	Sufficient sample volume received	
17. ☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration	
18. ☒ Yes ☐ No ☐ N/A	Samples submitted within holding time	
19. ☐ Yes ☐ No ☒ N/A	Do water VOC or TOX bottles contain headspace	

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

Client Review By: _____ Date: _____

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE 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.

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RACER Flint West #12990 SAMPLER(S) - PLEASE PRINT/SIGN NAME
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 GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
CODE: SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIFE A=AIR W=WASTE

Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NOVE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	PFAS/PFOS **	Certifications ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES Project Locations ☐ Detroit ☐ New York ☐ Other Special Instructions **- 28 Compound List
53396.01	9/14 9:50	MW-10652-230914	W	3	X							X	
02	9/14 9:28	Field Blank	W	3	X							X	report down to MDLs
03	9/14 10:50	MW-1125-230914	W	3	X							X	
04	9/14 12:00	MW-1175-230914	W	3	X							X	
05	9/14 12:58	MW-1035-230914	W	3	X							X	
06	9/14 12:55	MSD MW-1035-230914	W	3	X							X	
07	9/14 12:55	MSD MW-1035-230914	W	3	X							X	
08	9/14 13:55	MW-1085-230914	W	3	X							X	
	9/14	MW-1145-230914	W	3	X							X	
	9/14	DUP-1-230914	W	3	X							X	

RELINQUISHED BY: DATE 9/14/23 TIME 14:42
SIGNATURE/ORGANIZATION AE
RECEIVED BY: DATE 9/19/23 TIME 14:42
SIGNATURE/ORGANIZATION
RELINQUISHED BY: DATE 9/14/23 TIME 15:45
SIGNATURE/ORGANIZATION
RECEIVED BY: DATE 9/14/23 TIME 15:45
SIGNATURE/ORGANIZATION

RELINQUISHED BY: DATE TIME
SIGNATURE/ORGANIZATION
RECEIVED BY: DATE TIME
SIGNATURE/ORGANIZATION
SEAL NO. SEAL INTACT INITIALS
YES ☐ NO ☐
SEAL NO. SEAL INTACT INITIALS
YES ☐ NO ☐
NOTES: TEMP. ON ARRIVAL 3.8



Analytical Laboratory Report

Report ID: S53416.01(01)
Generated on 09/26/2023

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

Report Summary
Lab Sample ID(s): S53416.01-S53416.05
Project: RACER Flint West #12990
Collected Date(s): 09/14/2023
Submitted Date/Time: 09/15/2023 10:00
Sampled by: Unknown
P.O. #: 795930

Table of Contents

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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

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

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

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

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

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

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

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

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

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

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Accreditations

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
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 (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S53416.01	MW-114S-230914	Water	09/14/23 15:00
S53416.02	DUP-1-230914	Water	09/14/23 15:00
S53416.03	MW-110S	Water	09/14/23 16:30
S53416.04	EB-1	Water	09/14/23 16:55
S53416.05	Trip Blank	Water	09/14/23 00:01



Analytical Laboratory Report

Lab Sample ID: S53416.01

Sample Tag: MW-114S-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	5.2	IR
3	40ml Glass	HCL	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/20/23 10:56	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/15/23 11:20, 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	f
Chromium VI	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Metals

Method: E200.8, Run Date: 09/26/23 11:23, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.058	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000646	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.002507	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	0.001477	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	0.030	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 09/26/23 11:25, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.008	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000173	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.000576	0.005	0.000377	mg/L	5	7440-50-8	bf
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	0.014	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 20:08, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	50	1.6	ug/L	5	60-29-7	Y
Acetone	Not detected	250	45	ug/L	5	67-64-1	Y
Methyl iodide	Not detected	5	1.2	ug/L	5	74-88-4	Y
Carbon disulfide	Not detected	30	2.9	ug/L	5	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	30	0.61	ug/L	5	1634-04-4	Y

f-Filtered and preserved in lab

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

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S53416.01 (continued)

Sample Tag: MW-114S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 20:08, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acrylonitrile	Not detected	10	2.4	ug/L	5	107-13-1	Y
2-Butanone (MEK)	Not detected	130	23	ug/L	5	78-93-3	Y
Dichlorodifluoromethane	Not detected	30	1.8	ug/L	5	75-71-8	Y
Chloromethane	Not detected	30	3.9	ug/L	5	74-87-3	Y
Vinyl chloride	3.5	5	1.1	ug/L	5	75-01-4	JY
Bromomethane	Not detected	30	1.2	ug/L	5	74-83-9	Y
Chloroethane	Not detected	30	1.9	ug/L	5	75-00-3	Y
Trichlorofluoromethane	Not detected	5	1.0	ug/L	5	75-69-4	Y
1,1-Dichloroethene	Not detected	5	1.4	ug/L	5	75-35-4	Y
Methylene chloride	Not detected	30	1.2	ug/L	5	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	5	0.85	ug/L	5	156-60-5	Y
1,1-Dichloroethane	1.15	5	0.69	ug/L	5	75-34-3	JY
cis-1,2-Dichloroethene	63	5	0.73	ug/L	5	156-59-2	Y
Tetrahydrofuran*	Not detected	450	21	ug/L	5	109-99-9	Y
Chloroform	Not detected	5	0.64	ug/L	5	67-66-3	Y
Bromochloromethane	Not detected	5	0.85	ug/L	5	74-97-5	Y
1,1,1-Trichloroethane	Not detected	5	1.0	ug/L	5	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	250	1.8	ug/L	5	108-10-1	Y
2-Hexanone	Not detected	250	3.0	ug/L	5	591-78-6	Y
Carbon tetrachloride	Not detected	5	0.87	ug/L	5	56-23-5	Y
Benzene	Not detected	5	0.70	ug/L	5	71-43-2	Y
1,2-Dichloroethane	Not detected	5	0.58	ug/L	5	107-06-2	Y
Trichloroethene	166	5	0.72	ug/L	5	79-01-6	Y
1,2-Dichloropropane	Not detected	5	0.81	ug/L	5	78-87-5	Y
Bromodichloromethane	Not detected	5	1.5	ug/L	5	75-27-4	Y
Dibromomethane	Not detected	30	0.80	ug/L	5	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	5	0.94	ug/L	5	10061-01-5	Y
Toluene	Not detected	5	0.63	ug/L	5	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	5	0.93	ug/L	5	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	5	1.1	ug/L	5	79-00-5	Y
Tetrachloroethene	Not detected	5	0.95	ug/L	5	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	5	2.5	ug/L	5	110-57-6	Y
Dibromochloromethane	Not detected	30	1.1	ug/L	5	124-48-1	Y
1,2-Dibromoethane	Not detected	5	1.0	ug/L	5	106-93-4	Y
Chlorobenzene	Not detected	5	0.63	ug/L	5	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	5	0.86	ug/L	5	630-20-6	Y
Ethylbenzene	Not detected	5	0.73	ug/L	5	100-41-4	Y
p,m-Xylene*	Not detected	10	1.6	ug/L	5		Y
o-Xylene	Not detected	5	0.97	ug/L	5	95-47-6	Y
Styrene	Not detected	5	0.80	ug/L	5	100-42-5	Y
Isopropylbenzene	Not detected	30	0.84	ug/L	5	98-82-8	Y
Bromoform	Not detected	5	0.84	ug/L	5	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	5	1.1	ug/L	5	79-34-5	Y
1,2,3-Trichloropropane	Not detected	5	1.5	ug/L	5	96-18-4	Y
n-Propylbenzene	Not detected	5	1.1	ug/L	5	103-65-1	Y
Bromobenzene	Not detected	5	0.93	ug/L	5	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	5	1.1	ug/L	5	108-67-8	Y
tert-Butylbenzene	Not detected	5	1.2	ug/L	5	98-06-6	Y

Y-Elevated reporting limit due to high target concentration

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



Analytical Laboratory Report

Lab Sample ID: S53416.01 (continued)
Sample Tag: MW-114S-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/20/23 20:08, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,4-Trimethylbenzene	Not detected	5	1.3	ug/L	5	95-63-6	Y
sec-Butylbenzene	Not detected	5	1.2	ug/L	5	135-98-8	Y
p-Isopropyltoluene	Not detected	30	1.2	ug/L	5	99-87-6	Y
1,3-Dichlorobenzene	Not detected	5	0.89	ug/L	5	541-73-1	Y
1,4-Dichlorobenzene	Not detected	5	0.82	ug/L	5	106-46-7	Y
1,2-Dichlorobenzene	Not detected	5	0.65	ug/L	5	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	5	0.79	ug/L	5	526-73-8	Y
n-Butylbenzene	Not detected	5	2.5	ug/L	5	104-51-8	Y
Hexachloroethane	Not detected	30	1.5	ug/L	5	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	30	1.5	ug/L	5	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	30	2.3	ug/L	5	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	30	2.1	ug/L	5	87-61-6	Y
Naphthalene	Not detected	30	2.4	ug/L	5	91-20-3	Y
2-Methylnaphthalene	Not detected	30	4.4	ug/L	5	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S53416.02

Sample Tag: DUP-1-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	5.2	IR
3	40ml Glass	HCL	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/20/23 14:23	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/15/23 11:30, 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	f
Chromium VI	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Metals

Method: E200.8, Run Date: 09/26/23 11:29, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.057	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000624	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.002374	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	0.001459	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	0.027	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 09/26/23 11:32, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.009	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	Not detected	0.005	0.0000965	mg/L	5	7440-47-3	f
Copper, Dissolved	0.000767	0.005	0.000377	mg/L	5	7440-50-8	bf
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	0.015	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 17:54, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.33	ug/L	1	60-29-7	
Acetone	Not detected	50	8.9	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.57	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.12	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.48	ug/L	1	107-13-1	

f-Filtered and preserved in lab

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



Analytical Laboratory Report

Lab Sample ID: S53416.02 (continued)

Sample Tag: DUP-1-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 17:54, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.35	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.78	ug/L	1	74-87-3	
Vinyl chloride	5	1	0.22	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.24	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.37	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.21	ug/L	1	75-69-4	
1,1-Dichloroethene	0.78	1	0.28	ug/L	1	75-35-4	J
Methylene chloride	Not detected	5	0.24	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	0.64	1	0.17	ug/L	1	156-60-5	J
1,1-Dichloroethane	2	1	0.14	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	70	1	0.15	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	4.2	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.13	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.17	ug/L	1	74-97-5	
1,1,1-Trichloroethane	1	1	0.21	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.35	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.61	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.17	ug/L	1	56-23-5	
Benzene	Not detected	1	0.14	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.12	ug/L	1	107-06-2	
Trichloroethene	202	1	0.14	ug/L	1	79-01-6	E
1,2-Dichloropropane	Not detected	1	0.16	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.29	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.16	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.13	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.21	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.19	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.49	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.22	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.20	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.13	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.17	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.15	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.33	ug/L	1		
o-Xylene	Not detected	1	0.19	ug/L	1	95-47-6	
Styrene	Not detected	1	0.16	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.17	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.17	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.22	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.30	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.22	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.19	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.22	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.23	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.26	ug/L	1	95-63-6	

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

E-Concentration exceeds calibration range



Analytical Laboratory Report

Lab Sample ID: S53416.02 (continued)

Sample Tag: DUP-1-230914

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 17:54, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
sec-Butylbenzene	Not detected	1	0.24	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.24	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.18	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.16	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.13	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.16	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.49	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.29	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.29	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.45	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.42	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.48	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.87	ug/L	1	91-57-6	

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 09/20/23 20:32, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100	3.3	ug/L	10	60-29-7	Y
Acetone	Not detected	500	89	ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10	2.5	ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50	5.7	ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50	1.2	ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20	4.8	ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250	47	ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50	3.5	ug/L	10	75-71-8	Y
Chloromethane	Not detected	50	7.8	ug/L	10	74-87-3	Y
Vinyl chloride	3.6	10	2.2	ug/L	10	75-01-4	JY
Bromomethane	Not detected	50	2.4	ug/L	10	74-83-9	Y
Chloroethane	Not detected	50	3.7	ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10	2.1	ug/L	10	75-69-4	Y
1,1-Dichloroethene	Not detected	10	2.8	ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50	2.4	ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10	1.7	ug/L	10	156-60-5	Y
1,1-Dichloroethane	Not detected	10	1.4	ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	60	10	1.5	ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900	42	ug/L	10	109-99-9	Y
Chloroform	Not detected	10	1.3	ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10	1.7	ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10	2.1	ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500	3.5	ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500	6.1	ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10	1.7	ug/L	10	56-23-5	Y
Benzene	Not detected	10	1.4	ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10	1.2	ug/L	10	107-06-2	Y
Trichloroethene	170	10	1.4	ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10	1.6	ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10	2.9	ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50	1.6	ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10	1.9	ug/L	10	10061-01-5	Y

Y-Elevated reporting limit due to high target concentration

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



Analytical Laboratory Report

Lab Sample ID: S53416.02 (continued)

Sample Tag: DUP-1-230914

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 09/20/23 20:32, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	Not detected	10	1.3	ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10	1.9	ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10	2.1	ug/L	10	79-00-5	Y
Tetrachloroethene	Not detected	10	1.9	ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10	4.9	ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50	2.2	ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10	2.0	ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10	1.3	ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10	1.7	ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10	1.5	ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20	3.3	ug/L	10		Y
o-Xylene	Not detected	10	1.9	ug/L	10	95-47-6	Y
Styrene	Not detected	10	1.6	ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50	1.7	ug/L	10	98-82-8	Y
Bromoform	Not detected	10	1.7	ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10	2.2	ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10	3.0	ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10	2.2	ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10	1.9	ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10	2.2	ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10	2.3	ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10	2.6	ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10	2.4	ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50	2.4	ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10	1.8	ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10	1.6	ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10	1.3	ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10	1.6	ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10	4.9	ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50	2.9	ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50	2.9	ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50	4.5	ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50	4.2	ug/L	10	87-61-6	Y
Naphthalene	Not detected	50	4.8	ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50	8.7	ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S53416.03

Sample Tag: MW-110S

Collected Date/Time: 09/14/2023 16:30

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	5.2	IR
3	40ml Glass	HCL	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/20/23 14:23	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/15/23 11:40, 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	f
Chromium VI	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Metals

Method: E200.8, Run Date: 09/26/23 11:34, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.006	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.001803	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.001899	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	0.000729	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	0.002266	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 09/26/23 11:36, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.003	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000107	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.000510	0.005	0.000377	mg/L	5	7440-50-8	bf
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	0.000939	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/22/23 16:00, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.33	ug/L	1	60-29-7	
Acetone	Not detected	50	8.9	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.57	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.12	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.48	ug/L	1	107-13-1	

f-Filtered and preserved in lab

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



Analytical Laboratory Report

Lab Sample ID: S53416.03 (continued)

Sample Tag: MW-110S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/22/23 16:00, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.35	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.78	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.22	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.24	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.37	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.21	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.28	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.24	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.17	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.14	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.15	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	4.2	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.13	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.17	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.21	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.35	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.61	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.17	ug/L	1	56-23-5	
Benzene	Not detected	1	0.14	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.12	ug/L	1	107-06-2	
Trichloroethene	0.16	1	0.14	ug/L	1	79-01-6	J
1,2-Dichloropropane	Not detected	1	0.16	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.29	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.16	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.13	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.21	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.19	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.49	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.22	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.20	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.13	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.17	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.15	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.33	ug/L	1		
o-Xylene	Not detected	1	0.19	ug/L	1	95-47-6	
Styrene	Not detected	1	0.16	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.17	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.17	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.22	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.30	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.22	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.19	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.22	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.23	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.26	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.24	ug/L	1	135-98-8	

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



Analytical Laboratory Report

Lab Sample ID: S53416.03 (continued)
Sample Tag: MW-110S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/22/23 16:00, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
p-Isopropyltoluene	Not detected	5	0.24	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.18	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.16	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.13	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.16	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.49	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.29	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.29	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.45	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.42	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.48	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.87	ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S53416.04

Sample Tag: EB-1

Collected Date/Time: 09/14/2023 16:55

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125mL Plastic	None	Yes	5.2	IR
3	40ml Glass	HCL	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/20/23 14:23	ACK	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	
Metal Digestion	Completed	SW3015A	09/26/23 09:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 09/15/23 11:45, 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	f
Chromium VI	Not detected	0.01	0.004	mg/L	1	18540-29-9	

Metals

Method: E200.8, Run Date: 09/26/23 10:44, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.000485	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium	0.000119	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	Not detected	0.005	0.000377	mg/L	5	7440-50-8	
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	Not detected	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 09/26/23 10:47, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.000576	0.002	0.000255	mg/L	5	7440-38-2	bf
Chromium, Dissolved	0.002884	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	Not detected	0.005	0.000377	mg/L	5	7440-50-8	f
Lead, Dissolved	Not detected	0.003	0.000190	mg/L	5	7439-92-1	f
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	Not detected	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 17:35, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.33	ug/L	1	60-29-7	
Acetone	Not detected	50	8.9	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.57	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.12	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.48	ug/L	1	107-13-1	

f-Filtered and preserved in lab

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



Analytical Laboratory Report

Lab Sample ID: S53416.04 (continued)

Sample Tag: EB-1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 17:35, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.35	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.78	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.22	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.24	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.37	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.21	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.28	ug/L	1	75-35-4	
Methylene chloride	1.08	5	0.24	ug/L	1	75-09-2	J
trans-1,2-Dichloroethene	Not detected	1	0.17	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.14	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.15	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	4.2	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.13	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.17	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.21	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.35	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.61	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.17	ug/L	1	56-23-5	
Benzene	Not detected	1	0.14	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.12	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.14	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.16	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.29	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.16	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	0.15	1	0.13	ug/L	1	108-88-3	J
trans-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.21	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.19	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.49	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.22	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.20	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.13	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.17	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.15	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.33	ug/L	1		
o-Xylene	Not detected	1	0.19	ug/L	1	95-47-6	
Styrene	Not detected	1	0.16	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.17	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.17	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.22	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.30	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.22	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.19	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.22	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.23	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.26	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.24	ug/L	1	135-98-8	

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



Analytical Laboratory Report

Lab Sample ID: S53416.04 (continued)
Sample Tag: EB-1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 17:35, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
p-Isopropyltoluene	Not detected	5	0.24	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.18	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.16	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.13	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.16	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.49	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.29	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.29	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.45	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.42	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.48	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.87	ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S53416.05

Sample Tag: Trip Blank

Collected Date/Time: 09/14/2023 00:01

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/20/23 14:23	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 16:56, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.33	ug/L	1	60-29-7	
Acetone	Not detected	50	8.9	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.57	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.12	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.48	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.35	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.78	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.22	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.24	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.37	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.21	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.28	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.24	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.17	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.14	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.15	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	4.2	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.13	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.17	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.21	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.35	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.61	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.17	ug/L	1	56-23-5	
Benzene	Not detected	1	0.14	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.12	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.14	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.16	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.29	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.16	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.13	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.21	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.19	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.49	ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S53416.05 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/19/23 16:56, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5	0.22	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.20	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.13	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.17	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.15	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.33	ug/L	1		
o-Xylene	Not detected	1	0.19	ug/L	1	95-47-6	
Styrene	Not detected	1	0.16	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.17	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.17	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.22	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.30	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.22	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.19	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.22	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.23	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.26	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.24	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.24	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.18	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.16	ug/L	1	106-46-7	
1,2-Dichlorobenzene	0.14	1	0.13	ug/L	1	95-50-1	J
1,2,3-Trimethylbenzene	Not detected	1	0.16	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.49	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.29	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	0.32	5	0.29	ug/L	1	96-12-8	J
1,2,4-Trichlorobenzene	Not detected	5	0.45	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	0.57	5	0.42	ug/L	1	87-61-6	J
Naphthalene	0.55	5	0.48	ug/L	1	91-20-3	J
2-Methylnaphthalene	1.27	5	0.87	ug/L	1	91-57-6	JB

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

B-Compound also found in associated method blank

Merit Laboratories Login Checklist

Lab Set ID:S53416

Client:APPLIED (Applied Ecosystems)

Project: RACER Flint West #12990

Submitted:09/15/2023 10:00 Login User: PFD

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.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 5.2
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontracted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☒ Yes ☐ No ☐ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S53416 Submitted: 09/15/2023 10:00

Client: APPLIED (Applied Ecosystems)

Project: RACER Flint West #12990

Initial Preservation Check: 09/15/2023 10:34 PFD

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
S53416.01	125ml Plastic HNO3	<2			
S53416.02	125ml Plastic HNO3	<2			
S53416.03	125ml Plastic HNO3	<2			
S53416.04	125ml Plastic HNO3	<2			

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Rodney Abke		CONTACT NAME Monica Wallingford		☐ SAME	
COMPANY Applied EcoSystems		COMPANY Revitalizing Auto Communities Environmental Response (RACER) Trust			
ADDRESS G-4300 South Saginaw Street		ADDRESS			
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.			
ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)					

[illegible]

RELINQUISHED BY: SIGNATURE/ORGANIZATION	AC	☒ Sampler	DATE 9/14/03	TIME 17:00	RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>		DATE 9/15/03	TIME 9:15	RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>		DATE 9/15/03	TIME 10:00	SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL _____ 52
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>[Signature]</i>		DATE 9/15/03	TIME 12:00	SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

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



Analytical Laboratory Report

Report ID: S53418.01(01)
Generated on 10/06/2023

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

Report Summary
Lab Sample ID(s): S53418.01-S53418.05
Project: RACER Flint West #12990
Collected Date(s): 09/14/2023
Submitted Date/Time: 09/15/2023 10:00
Sampled by: Unknown
P.O. #: 795930

Table of Contents

- Cover Page (Page 1)
- General Report Notes (Page 2)
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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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

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

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

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

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

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

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

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

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

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

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Accreditations

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

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
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
PFTTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6



Analytical Laboratory Report

Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S53418.01	MW-114S-230914	Water	09/14/23 15:00
S53418.02	Dup-1-230914	Water	09/14/23 15:00
S53418.03	MW-110S-230914	Water	09/14/23 16:30
S53418.04	EB-1	Water	09/14/23 16:55
S53418.05	Trip Blank	Water	09/14/23 00:01



Analytical Laboratory Report

Lab Sample ID: S53418.01

Sample Tag: MW-114S-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	5.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.10/6.53/11	ASTMD7979-19M	09/20/23 09:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/20/23 14:54, 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*	2.6	3.9	0.99	ng/L	1.97	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.97	757124-72-4	
PFHxA*	Not detected	2.4	1.4	ng/L	1.97	307-24-4	X
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	2.0	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	2.0	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*	14	2.0	1.9	ng/L	1.97	1763-23-1	
PFOS-LN*	7.2	2.0	1.9	ng/L	1.97	1763-23-1-LN	
PFOS-BR*	7.2	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	
PFTTrDA*	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	2.0	2.0	ng/L	1.97	13252-13-6	

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

X-Elevated reporting limit due to matrix interference



Analytical Laboratory Report

Lab Sample ID: S53418.02

Sample Tag: Dup-1-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	5.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.08/6.52/11	ASTMD7979-19M	09/20/23 09:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/20/23 15:33, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.9	9.9	ng/L	1.98	375-22-4	
PFPeA*	1.7	4.0	0.99	ng/L	1.98	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.98	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	1.98	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.98	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.98	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.98	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.98	27619-97-2	
PFOA*	1.9	2.0	1.6	ng/L	1.98	335-67-1	J
PFHxS*	Not detected	2.0	1.6	ng/L	1.98	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.98	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.98	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.98	375-95-1	
8:2 FTSA*	Not detected	2.0	0.99	ng/L	1.98	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.98	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.98	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.98	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	1.98	2991-50-6	
PFOS*	14	2.0	1.9	ng/L	1.98	1763-23-1	
PFOS-LN*	7.5	2.0	1.9	ng/L	1.98	1763-23-1-LN	
PFOS-BR*	6.7	2.0	1.9	ng/L	1.98	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.98	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.98	68259-12-1	
PFDODA*	Not detected	2.0	1.6	ng/L	1.98	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.98	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	1.98	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.98	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	1.98	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.98	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.98	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.98	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	1.98	13252-13-6	

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



Analytical Laboratory Report

Lab Sample ID: S53418.03
Sample Tag: MW-110S-230914
Collected Date/Time: 09/14/2023 16:30
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	5.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.27/6.54/11	ASTMD7979-19M	09/20/23 09:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/20/23 16:12, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	21	9.6	9.6	ng/L	1.92	375-22-4	
PFPeA*	1.1	3.8	0.96	ng/L	1.92	2706-90-3	J
4:2 FTSA*	Not detected	1.9	1.5	ng/L	1.92	757124-72-4	
PFHxA*	Not detected	1.9	1.3	ng/L	1.92	307-24-4	
PFBS*	5.4	1.9	1.3	ng/L	1.92	375-73-5	
PFHpA*	Not detected	1.9	1.3	ng/L	1.92	375-85-9	
PFPeS*	Not detected	1.9	1.7	ng/L	1.92	2706-91-4	
6:2 FTSA*	Not detected	1.9	1.9	ng/L	1.92	27619-97-2	
PFOA*	Not detected	1.9	1.5	ng/L	1.92	335-67-1	
PFHxS*	2.4	1.9	1.5	ng/L	1.92	355-46-4	
PFHxS-LN*	Not detected	1.9	1.5	ng/L	1.92	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	1.5	ng/L	1.92	355-46-4-BR	
PFNA*	Not detected	1.9	1.7	ng/L	1.92	375-95-1	
8:2 FTSA*	Not detected	1.9	0.96	ng/L	1.92	39108-34-4	
PFHpS*	Not detected	1.9	1.9	ng/L	1.92	375-92-8	
PFDA*	Not detected	1.9	1.9	ng/L	1.92	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.92	2355-31-9	
EtFOSAA*	Not detected	3.8	1.9	ng/L	1.92	2991-50-6	
PFOS*	Not detected	1.9	1.9	ng/L	1.92	1763-23-1	
PFOS-LN*	Not detected	1.9	1.9	ng/L	1.92	1763-23-1-LN	
PFOS-BR*	Not detected	1.9	1.9	ng/L	1.92	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.3	ng/L	1.92	2058-94-8	
PFNS*	Not detected	1.9	1.3	ng/L	1.92	68259-12-1	
PFDODA*	Not detected	1.9	1.5	ng/L	1.92	307-55-1	
PFDS*	Not detected	1.9	1.3	ng/L	1.92	335-77-3	
PFTTrDA*	Not detected	1.9	1.2	ng/L	1.92	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.92	754-91-6	
PFTeDA*	Not detected	3.8	1.7	ng/L	1.92	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.92	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.3	ng/L	1.92	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.92	919005-14-4	
HFPO-DA*	Not detected	1.9	1.9	ng/L	1.92	13252-13-6	

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



Analytical Laboratory Report

Lab Sample ID: S53418.04

Sample Tag: EB-1

Collected Date/Time: 09/14/2023 16:55

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	5.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.98/6.53/11	ASTMD7979-19M	09/20/23 09:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/20/23 16:31, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.02	375-22-4	
PFPeA*	Not detected	4.0	1.0	ng/L	2.02	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.02	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2.02	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2.02	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.02	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.02	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.02	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	2.02	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	2.02	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2.02	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.02	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.02	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.02	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.02	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.02	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.02	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2.02	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	2.02	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2.02	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	2.0	ng/L	2.02	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.02	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.02	68259-12-1	
PFDODA*	Not detected	2.0	1.6	ng/L	2.02	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.02	335-77-3	
PFTTrDA*	Not detected	2.0	1.2	ng/L	2.02	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.02	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2.02	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.02	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.02	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.02	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	2.02	13252-13-6	



Analytical Laboratory Report

Lab Sample ID: S53418.05

Sample Tag: Trip Blank

Collected Date/Time: 09/14/2023 00:01

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	5.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.91/6.51/11	ASTMD7979-19M	09/20/23 09:00	AB	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/20/23 16:51, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.04	375-22-4	
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*	Not detected	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	2.0	2.0	ng/L	2.04	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	2.04	335-67-1	
PFHxS*	Not detected	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	2.0	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*	Not detected	4.1	2.0	ng/L	2.04	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	2.04	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2.04	1763-23-1-LN	
PFOS-BR*	Not detected	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	
PFTTrDA*	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	
11CI-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.04	763051-92-9	
9CI-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	2.0	2.0	ng/L	2.04	13252-13-6	

Merit Laboratories Login Checklist

Lab Set ID:S53418

Client:APPLIED (Applied Ecosystems)

Project: RACER Flint West #12990

Submitted:09/15/2023 10:00 Login User: PFD

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. ☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C	Thermometer # IR 5.2
02. ☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun	
03. ☐ Yes ☒ No ☐ N/A	Samples shipped	
04. ☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box	
05. ☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody		
06. ☒ Yes ☐ No ☐ N/A	COC adequately filled out	
07. ☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab	
08. ☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC	
09. ☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontracted to:	
Preservation		
10. ☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation	
11. ☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)	
12. ☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions		
13. ☒ Yes ☐ No ☐ N/A	All bottles intact	
14. ☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used	
15. ☒ Yes ☐ No ☐ N/A	Merit bottles used	
16. ☒ Yes ☐ No ☐ N/A	Sufficient sample volume received	
17. ☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration	
18. ☒ Yes ☐ No ☐ N/A	Samples submitted within holding time	
19. ☐ Yes ☐ No ☒ N/A	Do water VOC or TOX bottles contain headspace	

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

Client Review By: _____ Date: _____



Quality Control Report

Report ID: QC-S53392-01
Generated on 09/27/2023

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): S53392.01-S53392.08
Project: RACER Flint West #12990
Submitted Date/Time: 09/14/2023 15:45
Sampled by: Unknown
P.O. #: 795930

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-9)
Prep Batch Summary (Pages 10-12)
Surrogates per Lab Sample (Pages 13-18)
Surrogates per QC Sample (Pages 19-22)
Batch QC Results (Pages 23-46)

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: S53392.01

Sample Tag: MW-106SR-230914

Collected Date/Time: 09/14/2023 09:50

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:35	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	09/14/23 16:50	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Arsenic, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 10:50	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 10:50	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 10:50	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 10:50	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 10:50	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 10:50	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 03:27	230918B7	VF230918W4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53392.02

Sample Tag: Field Blank

Collected Date/Time: 09/14/2023 09:28

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:40	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	09/14/23 17:00	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Arsenic, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 10:39	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 10:39	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 10:39	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 10:39	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 10:39	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 10:39	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 03:04	230918B7	VF230918W4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53392.03

Sample Tag: MW-112S-230914

Collected Date/Time: 09/14/2023 10:50

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:05	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	09/14/23 17:05	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Arsenic, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 10:59	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 10:59	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 10:59	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 10:59	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 10:59	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 10:59	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 03:51	230918B7	VF230918W4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53392.04

Sample Tag: MW-117S-230914

Collected Date/Time: 09/14/2023 12:00

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:45	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	09/14/23 17:10	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Arsenic, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 11:16	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 11:16	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 11:16	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 11:16	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 11:16	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 11:16	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 19:51	230919A9	VF230919W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53392.05

Sample Tag: MW-103S-230914

Collected Date/Time: 09/14/2023 12:55

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:15	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	09/14/23 17:15	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Arsenic, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 11:06	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 11:06	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 11:06	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 11:06	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 11:06	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 11:06	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/20/23 15:48	230920A7	VF230920W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53392.06

Sample Tag: MS MW-103S-230914

Collected Date/Time: 09/14/2023 12:55

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:20	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	09/14/23 17:20	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Arsenic, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 11:07	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 11:07	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 11:07	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 11:07	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 11:07	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 11:07	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/20/23 21:42	230920A7	VF230920W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53392.07

Sample Tag: MSD MW-103S-230914

Collected Date/Time: 09/14/2023 12:55

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:25	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	09/14/23 17:25	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Arsenic, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 11:09	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 11:09	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 11:09	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 11:09	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 11:09	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 11:09	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/20/23 22:05	230920A7	VF230920W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53392.08

Sample Tag: MW-108S-230914

Collected Date/Time: 09/14/2023 13:55

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:50	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Chromium VI	SM3500-Cr B	09/14/23 17:30	CHR230914-W1	CHR230914-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Arsenic, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 11:04	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 11:04	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 11:04	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 11:04	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 11:04	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 11:04	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 20:11	230919A9	VF230919W1	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: CHR230914-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53392.01	Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:35	CHR230914-W1
S53392.01	Chromium VI	SM3500-Cr B	09/14/23 16:50	CHR230914-W1
S53392.02	Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:40	CHR230914-W1
S53392.02	Chromium VI	SM3500-Cr B	09/14/23 17:00	CHR230914-W1
S53392.03	Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:05	CHR230914-W1
S53392.03	Chromium VI	SM3500-Cr B	09/14/23 17:05	CHR230914-W1
S53392.04	Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:45	CHR230914-W1
S53392.04	Chromium VI	SM3500-Cr B	09/14/23 17:10	CHR230914-W1
S53392.05	Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:15	CHR230914-W1
S53392.05	Chromium VI	SM3500-Cr B	09/14/23 17:15	CHR230914-W1
S53392.06	Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:20	CHR230914-W1
S53392.06	Chromium VI	SM3500-Cr B	09/14/23 17:20	CHR230914-W1
S53392.07	Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:25	CHR230914-W1
S53392.07	Chromium VI	SM3500-Cr B	09/14/23 17:25	CHR230914-W1
S53392.08	Chromium VI, Dissolved	SM3500-Cr B	09/14/23 17:50	CHR230914-W1
S53392.08	Chromium VI	SM3500-Cr B	09/14/23 17:30	CHR230914-W1

Metals, Prep Batch ID: MTD-092623-1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53392.01	Arsenic, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A
S53392.01	Arsenic	E200.8	09/26/23 10:50	MT4-23-0926A
S53392.01	Chromium, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A
S53392.01	Chromium	E200.8	09/26/23 10:50	MT4-23-0926A
S53392.01	Copper, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A
S53392.01	Copper	E200.8	09/26/23 10:50	MT4-23-0926A
S53392.01	Lead, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A
S53392.01	Lead	E200.8	09/26/23 10:50	MT4-23-0926A
S53392.01	Selenium, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A
S53392.01	Selenium	E200.8	09/26/23 10:50	MT4-23-0926A
S53392.01	Zinc, Dissolved	E200.8	09/26/23 10:57	MT4-23-0926A
S53392.01	Zinc	E200.8	09/26/23 10:50	MT4-23-0926A
S53392.02	Arsenic, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A
S53392.02	Arsenic	E200.8	09/26/23 10:39	MT4-23-0926A
S53392.02	Chromium, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A
S53392.02	Chromium	E200.8	09/26/23 10:39	MT4-23-0926A
S53392.02	Copper, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A
S53392.02	Copper	E200.8	09/26/23 10:39	MT4-23-0926A
S53392.02	Lead, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A
S53392.02	Lead	E200.8	09/26/23 10:39	MT4-23-0926A
S53392.02	Selenium, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A
S53392.02	Selenium	E200.8	09/26/23 10:39	MT4-23-0926A
S53392.02	Zinc, Dissolved	E200.8	09/26/23 10:40	MT4-23-0926A
S53392.02	Zinc	E200.8	09/26/23 10:39	MT4-23-0926A
S53392.03	Arsenic, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A
S53392.03	Arsenic	E200.8	09/26/23 10:59	MT4-23-0926A
S53392.03	Chromium, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A
S53392.03	Chromium	E200.8	09/26/23 10:59	MT4-23-0926A
S53392.03	Copper, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A
S53392.03	Copper	E200.8	09/26/23 10:59	MT4-23-0926A

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-092623-1 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53392.03	Lead, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A
S53392.03	Lead	E200.8	09/26/23 10:59	MT4-23-0926A
S53392.03	Selenium, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A
S53392.03	Selenium	E200.8	09/26/23 10:59	MT4-23-0926A
S53392.03	Zinc, Dissolved	E200.8	09/26/23 11:00	MT4-23-0926A
S53392.03	Zinc	E200.8	09/26/23 10:59	MT4-23-0926A
S53392.04	Arsenic, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A
S53392.04	Arsenic	E200.8	09/26/23 11:16	MT4-23-0926A
S53392.04	Chromium, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A
S53392.04	Chromium	E200.8	09/26/23 11:16	MT4-23-0926A
S53392.04	Copper, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A
S53392.04	Copper	E200.8	09/26/23 11:16	MT4-23-0926A
S53392.04	Lead, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A
S53392.04	Lead	E200.8	09/26/23 11:16	MT4-23-0926A
S53392.04	Selenium, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A
S53392.04	Selenium	E200.8	09/26/23 11:16	MT4-23-0926A
S53392.04	Zinc, Dissolved	E200.8	09/26/23 11:19	MT4-23-0926A
S53392.04	Zinc	E200.8	09/26/23 11:16	MT4-23-0926A
S53392.05	Arsenic, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A
S53392.05	Arsenic	E200.8	09/26/23 11:06	MT4-23-0926A
S53392.05	Chromium, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A
S53392.05	Chromium	E200.8	09/26/23 11:06	MT4-23-0926A
S53392.05	Copper, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A
S53392.05	Copper	E200.8	09/26/23 11:06	MT4-23-0926A
S53392.05	Lead, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A
S53392.05	Lead	E200.8	09/26/23 11:06	MT4-23-0926A
S53392.05	Selenium, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A
S53392.05	Selenium	E200.8	09/26/23 11:06	MT4-23-0926A
S53392.05	Zinc, Dissolved	E200.8	09/26/23 11:38	MT4-23-0926A
S53392.05	Zinc	E200.8	09/26/23 11:06	MT4-23-0926A
S53392.06	Arsenic, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A
S53392.06	Arsenic	E200.8	09/26/23 11:07	MT4-23-0926A
S53392.06	Chromium, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A
S53392.06	Chromium	E200.8	09/26/23 11:07	MT4-23-0926A
S53392.06	Copper, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A
S53392.06	Copper	E200.8	09/26/23 11:07	MT4-23-0926A
S53392.06	Lead, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A
S53392.06	Lead	E200.8	09/26/23 11:07	MT4-23-0926A
S53392.06	Selenium, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A
S53392.06	Selenium	E200.8	09/26/23 11:07	MT4-23-0926A
S53392.06	Zinc, Dissolved	E200.8	09/26/23 11:40	MT4-23-0926A
S53392.06	Zinc	E200.8	09/26/23 11:07	MT4-23-0926A
S53392.07	Arsenic, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A
S53392.07	Arsenic	E200.8	09/26/23 11:09	MT4-23-0926A
S53392.07	Chromium, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A
S53392.07	Chromium	E200.8	09/26/23 11:09	MT4-23-0926A
S53392.07	Copper, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A
S53392.07	Copper	E200.8	09/26/23 11:09	MT4-23-0926A
S53392.07	Lead, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-092623-1 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53392.07	Lead	E200.8	09/26/23 11:09	MT4-23-0926A
S53392.07	Selenium, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A
S53392.07	Selenium	E200.8	09/26/23 11:09	MT4-23-0926A
S53392.07	Zinc, Dissolved	E200.8	09/26/23 11:42	MT4-23-0926A
S53392.07	Zinc	E200.8	09/26/23 11:09	MT4-23-0926A
S53392.08	Arsenic, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A
S53392.08	Arsenic	E200.8	09/26/23 11:04	MT4-23-0926A
S53392.08	Chromium, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A
S53392.08	Chromium	E200.8	09/26/23 11:04	MT4-23-0926A
S53392.08	Copper, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A
S53392.08	Copper	E200.8	09/26/23 11:04	MT4-23-0926A
S53392.08	Lead, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A
S53392.08	Lead	E200.8	09/26/23 11:04	MT4-23-0926A
S53392.08	Selenium, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A
S53392.08	Selenium	E200.8	09/26/23 11:04	MT4-23-0926A
S53392.08	Zinc, Dissolved	E200.8	09/26/23 11:21	MT4-23-0926A
S53392.08	Zinc	E200.8	09/26/23 11:04	MT4-23-0926A

Organics - Volatiles, Prep Batch ID: VF230918W4

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53392.01	Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 03:27	230918B7
S53392.02	Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 03:04	230918B7
S53392.03	Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 03:51	230918B7

Organics - Volatiles, Prep Batch ID: VF230919W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53392.04	Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 19:51	230919A9
S53392.08	Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 20:11	230919A9

Organics - Volatiles, Prep Batch ID: VF230920W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53392.05	Volatile Organics - DEQ List	SW5030C/8260C	09/20/23 15:48	230920A7
S53392.06	Volatile Organics - DEQ List	SW5030C/8260C	09/20/23 21:42	230920A7
S53392.07	Volatile Organics - DEQ List	SW5030C/8260C	09/20/23 22:05	230920A7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53392.01

Sample Tag: MW-106SR-230914

Collected Date/Time: 09/14/2023 09:50

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230918B7, Run Date: 09/19/2023 03:27, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.8	80.0	124.0
1,2-Dichloroethane-D4		109.8	72.0	125.0
Toluene-D8		100.4	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53392.02

Sample Tag: Field Blank

Collected Date/Time: 09/14/2023 09:28

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230918B7, Run Date: 09/19/2023 03:04, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.9	80.0	124.0
1,2-Dichloroethane-D4		97.2	72.0	125.0
Toluene-D8		100.2	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53392.03

Sample Tag: MW-112S-230914

Collected Date/Time: 09/14/2023 10:50

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230918B7, Run Date: 09/19/2023 03:51, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.5	80.0	124.0
1,2-Dichloroethane-D4		100.3	72.0	125.0
Toluene-D8		101.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53392.04

Sample Tag: MW-117S-230914

Collected Date/Time: 09/14/2023 12:00

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230919A9, Run Date: 09/19/2023 19:51, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.7	80.0	124.0
1,2-Dichloroethane-D4		105.1	72.0	125.0
Toluene-D8		98.7	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53392.05

Sample Tag: MW-103S-230914

Collected Date/Time: 09/14/2023 12:55

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230920A7, Run Date: 09/20/2023 15:48, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.5	80.0	124.0
1,2-Dichloroethane-D4		98.9	72.0	125.0
Toluene-D8		101.5	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53392.08

Sample Tag: MW-108S-230914

Collected Date/Time: 09/14/2023 13:55

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230919A9, Run Date: 09/19/2023 20:11, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.9	80.0	124.0
1,2-Dichloroethane-D4		104.6	72.0	125.0
Toluene-D8		100.5	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230918W4

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230918B7.BLKW18B

Run in Batch: 230918B7, Run Date: 09/19/2023 02:40, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.6	80.0	124.0
1,2-Dichloroethane-D4		99.4	72.0	125.0
Toluene-D8		100.8	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230918B7.LCSW18B

Run in Batch: 230918B7, Run Date: 09/19/2023 01:06, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.6	80.0	124.0
1,2-Dichloroethane-D4		95.7	72.0	125.0
Toluene-D8		100.0	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230918B7.LCSDW18B, Parent Sample ID: 230918B7.LCSW18B

Run in Batch: 230918B7, Run Date: 09/19/2023 01:30, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.2	80.0	124.0
1,2-Dichloroethane-D4		96.8	72.0	125.0
Toluene-D8		100.5	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230919W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230919A9.BLKW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 15:18, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.4	80.0	124.0
1,2-Dichloroethane-D4		100.8	72.0	125.0
Toluene-D8		99.3	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:00, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.7	80.0	124.0
1,2-Dichloroethane-D4		101.7	72.0	125.0
Toluene-D8		100.4	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230919A9.LCSDW19A, Parent Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:19, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.3	80.0	124.0
1,2-Dichloroethane-D4		104.7	72.0	125.0
Toluene-D8		101.1	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230920W2

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

Blank (BLK)

Lab Sample ID: 230920A7.BLKW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 14:26, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.8	80.0	124.0
1,2-Dichloroethane-D4		93.6	72.0	125.0
Toluene-D8		100.1	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 12:52, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.5	80.0	124.0
1,2-Dichloroethane-D4		91.0	72.0	125.0
Toluene-D8		99.2	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230920A7.LCSDW20A, Parent Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 13:16, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.8	80.0	124.0
1,2-Dichloroethane-D4		92.7	72.0	125.0
Toluene-D8		99.8	89.0	112.0

Matrix Spike (MS)

Lab Sample ID: 230920A7.5339206M, Parent Sample ID: S53392.05

Run in Batch: 230920A7, Run Date: 09/20/2023 21:42, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		104.8	80.0	124.0
1,2-Dichloroethane-D4		97.6	72.0	125.0
Toluene-D8		101.1	89.0	112.0

Matrix Spike (MS)

Lab Sample ID: 230920A7.5340402M, Parent Sample ID: S53404.01

Run in Batch: 230920A7, Run Date: 09/20/2023 22:29, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.2	80.0	124.0
1,2-Dichloroethane-D4		91.5	72.0	125.0
Toluene-D8		99.9	89.0	112.0

QC Report - Surrogates per QC Sample

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230920A7.5339207N, Parent Sample ID: 230920A7.5339206M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:05, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.9	80.0	124.0
1,2-Dichloroethane-D4		99.7	72.0	125.0
Toluene-D8		101.2	89.0	112.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230920A7.5340403N, Parent Sample ID: 230920A7.5340402M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:53, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.7	80.0	124.0
1,2-Dichloroethane-D4		89.5	72.0	125.0
Toluene-D8		99.7	89.0	112.0

QC Report - Batch QC Results

Inorganics, Prep Batch ID: CHR230914-W1

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

Blank (BLK)

Lab Sample ID: CHR230914-W1.LRB1

Run in Batch: CHR230914-W1, Run Date: 09/14/2023 16:30, Prep Date: 09/14/2023, Matrix: Liquid, Dilution: 1

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

Laboratory Control Sample (LCS)

Lab Sample ID: CHR230914-W1.LCS1

Run in Batch: CHR230914-W1, Run Date: 09/14/2023 16:45, Prep Date: 09/14/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium VI		108	90	110

Matrix Spike (MS)

Lab Sample ID: CHR230914-W1.MS1, Parent Sample ID: S53392.05

Run in Batch: CHR230914-W1, Run Date: 09/14/2023 17:20, Prep Date: 09/14/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium VI	*	13	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CHR230914-W1.MSD1, Parent Sample ID: CHR230914-W1.MS1

Run in Batch: CHR230914-W1, Run Date: 09/14/2023 17:25, Prep Date: 09/14/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium VI	*	1	80	120	161	15

Duplicate (DUP)

Lab Sample ID: CHR230914-W1.DP1, Parent Sample ID: S53392.01

Run in Batch: CHR230914-W1, Run Date: 09/14/2023 16:55, Prep Date: 09/14/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Chromium VI		<1	15

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-092623-1

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

Blank (BLK)

Lab Sample ID: MT4-23-0926A.019.LRB

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 10:37, Prep Date: 09/26/2023, 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: MT4-23-0926A.018.LCS

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 10:34, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		100	85	115
Chromium		103	85	115
Copper		100	85	115
Lead		100	85	115
Selenium		101	85	115
Zinc		99	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-23-0926A.031.MS, Parent Sample ID: S53392.05

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 11:07, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		109	75	125
Chromium		108	75	125
Copper		99	75	125
Lead		94	75	125
Selenium		111	75	125
Zinc		110	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-23-0926A.046.MS, Parent Sample ID: S53392.05

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 11:40, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		100	75	125
Copper		97	75	125
Zinc		94	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-0926A.032.MSD, Parent Sample ID: MT4-23-0926A.031.MS

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 11:09, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		112	75	125	2	20
Chromium		105	75	125	3	20
Copper		97	75	125	2	20
Lead		97	75	125	4	20
Selenium		116	75	125	5	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-092623-1 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-23-0926A.032.MSD, Parent Sample ID: MT4-23-0926A.031.MS

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 11:09, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Zinc		108	75	125	2	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-0926A.047.MSD, Parent Sample ID: MT4-23-0926A.046.MS

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 11:42, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		109	75	125	9	20
Copper		98	75	125	1	20
Zinc		108	75	125	14	20

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230918W4

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

Blank (BLK)

Lab Sample ID: 230918B7.BLKW18B

Run in Batch: 230918B7, Run Date: 09/19/2023 02:40, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

Organics - Volatiles, Prep Batch ID: VF230918W4 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230918B7.BLKW18B

Run in Batch: 230918B7, Run Date: 09/19/2023 02:40, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230918B7.LCSW18B

Run in Batch: 230918B7, Run Date: 09/19/2023 01:06, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		108.4	67.4	121.2
Acetone		108.0	29.9	161.5
Methyl iodide		113.7	68.8	116.4
Carbon disulfide		111.5	63.8	137.4
tert-Methyl butyl ether (MTBE)		112.1	73.2	122.4
Acrylonitrile		115.8	69.9	128.9
2-Butanone (MEK)		107.8	44.0	134.4
Dichlorodifluoromethane		98.3	10.0	222.8
Chloromethane		108.6	23.8	166.5
Vinyl chloride		107.1	43.5	149.1
Bromomethane		116.7	56.8	151.3
Chloroethane		112.8	53.4	149.4
Trichlorofluoromethane		110.0	59.7	151.8
1,1-Dichloroethene		109.0	69.6	139.4
Methylene chloride		108.4	73.3	121.1
trans-1,2-Dichloroethene		110.5	73.6	129.3
1,1-Dichloroethane		110.7	71.5	126.2
cis-1,2-Dichloroethene		111.4	76.6	122.1
Tetrahydrofuran		102.0	59.0	117.9
Chloroform		109.6	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230918W4 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230918B7.LCSW18B

Run in Batch: 230918B7, Run Date: 09/19/2023 01:06, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		112.1	78.2	120.8
1,1,1-Trichloroethane		112.3	79.4	130.9
4-Methyl-2-pentanone (MIBK)		105.8	71.6	125.2
2-Hexanone		105.2	55.4	136.9
Carbon tetrachloride		110.0	72.6	133.0
Benzene		109.7	79.9	124.9
1,2-Dichloroethane		103.8	76.0	126.3
Trichloroethene		111.7	79.7	124.2
1,2-Dichloropropane		112.7	78.6	126.4
Bromodichloromethane		110.1	80.4	128.2
Dibromomethane		114.0	76.9	122.1
cis-1,3-Dichloropropene		112.4	79.8	129.9
Toluene		109.0	79.8	124.5
trans-1,3-Dichloropropene		106.8	74.0	131.3
1,1,2-Trichloroethane		108.2	78.7	123.1
Tetrachloroethene		110.9	74.5	124.5
trans-1,4-Dichloro-2-butene		110.1	68.6	135.4
Dibromochloromethane		114.8	74.6	127.2
1,2-Dibromoethane		113.3	70.3	133.7
Chlorobenzene		109.1	79.2	122.7
1,1,1,2-Tetrachloroethane		112.2	80.3	128.2
Ethylbenzene		110.9	79.5	129.1
p,m-Xylene		109.3	79.4	132.2
o-Xylene		109.1	80.2	131.0
Styrene		112.8	69.5	126.7
Isopropylbenzene		111.1	74.4	121.5
Bromoform		113.6	69.4	128.0
1,1,2,2-Tetrachloroethane		108.7	79.8	126.3
1,2,3-Trichloropropane		111.3	78.3	138.8
n-Propylbenzene		111.3	82.0	130.7
Bromobenzene		112.8	78.7	124.6
1,3,5-Trimethylbenzene		113.1	81.3	128.9
tert-Butylbenzene		110.3	80.7	128.9
1,2,4-Trimethylbenzene		112.0	81.4	130.8
sec-Butylbenzene		109.7	77.4	129.8
p-Isopropyltoluene		109.5	79.8	137.5
1,3-Dichlorobenzene		108.4	77.0	131.3
1,4-Dichlorobenzene		109.1	20.7	137.7
1,2-Dichlorobenzene		110.1	10.0	166.2
1,2,3-Trimethylbenzene		108.3	76.3	124.2
n-Butylbenzene		108.7	80.0	133.3
Hexachloroethane		114.4	23.8	138.1
1,2-Dibromo-3-chloropropane		116.2	21.2	189.4
1,2,4-Trichlorobenzene		113.0	27.4	143.4
1,2,3-Trichlorobenzene		113.6	75.4	131.4
Naphthalene		114.7	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230918W4 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230918B7.LCSW18B

Run in Batch: 230918B7, Run Date: 09/19/2023 01:06, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		102.9	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230918B7.LCSDW18B, Parent Sample ID: 230918B7.LCSW18B

Run in Batch: 230918B7, Run Date: 09/19/2023 01:30, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		97.1	67.4	121.2	11.0	30.0
Acetone		104.0	29.9	161.5	3.8	30.0
Methyl iodide		98.8	68.8	116.4	14.0	30.0
Carbon disulfide		94.5	63.8	137.4	16.5	30.0
tert-Methyl butyl ether (MTBE)		103.3	73.2	122.4	8.2	30.0
Acrylonitrile		111.0	69.9	128.9	4.2	30.0
2-Butanone (MEK)		106.4	44.0	134.4	1.3	30.0
Dichlorodifluoromethane		82.6	10.0	222.8	17.3	30.0
Chloromethane		93.1	23.8	166.5	15.3	30.0
Vinyl chloride		93.2	43.5	149.1	13.9	30.0
Bromomethane		102.7	56.8	151.3	12.7	30.0
Chloroethane		97.5	53.4	149.4	14.6	30.0
Trichlorofluoromethane		94.1	59.7	151.8	15.6	30.0
1,1-Dichloroethene		94.9	69.6	139.4	13.9	30.0
Methylene chloride		95.2	73.3	121.1	12.9	30.0
trans-1,2-Dichloroethene		95.8	73.6	129.3	14.3	30.0
1,1-Dichloroethane		96.1	71.5	126.2	14.2	30.0
cis-1,2-Dichloroethene		96.7	76.6	122.1	14.2	30.0
Tetrahydrofuran		107.0	59.0	117.9	4.8	30.0
Chloroform		95.8	78.4	124.0	13.4	30.0
Bromochloromethane		100.0	78.2	120.8	11.4	30.0
1,1,1-Trichloroethane		96.4	79.4	130.9	15.2	30.0
4-Methyl-2-pentanone (MIBK)		107.5	71.6	125.2	1.6	30.0
2-Hexanone		109.4	55.4	136.9	4.0	30.0
Carbon tetrachloride		94.4	72.6	133.0	15.2	30.0
Benzene		94.6	79.9	124.9	14.8	30.0
1,2-Dichloroethane		91.5	76.0	126.3	12.6	30.0
Trichloroethene		95.7	79.7	124.2	15.4	30.0
1,2-Dichloropropane		95.6	78.6	126.4	16.4	30.0
Bromodichloromethane		96.1	80.4	128.2	13.6	30.0
Dibromomethane		102.0	76.9	122.1	11.1	30.0
cis-1,3-Dichloropropene		99.0	79.8	129.9	12.7	30.0
Toluene		94.7	79.8	124.5	14.0	30.0
trans-1,3-Dichloropropene		96.7	74.0	131.3	9.8	30.0
1,1,2-Trichloroethane		99.0	78.7	123.1	8.8	30.0
Tetrachloroethene		95.9	74.5	124.5	14.5	30.0
trans-1,4-Dichloro-2-butene		103.7	68.6	135.4	6.0	30.0
Dibromochloromethane		101.4	74.6	127.2	12.4	30.0
1,2-Dibromoethane		102.1	70.3	133.7	10.4	30.0
Chlorobenzene		94.5	79.2	122.7	14.4	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230918W4 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230918B7.LCSDW18B, Parent Sample ID: 230918B7.LCSW18B

Run in Batch: 230918B7, Run Date: 09/19/2023 01:30, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		97.9	80.3	128.2	13.6	30.0
Ethylbenzene		94.8	79.5	129.1	15.7	30.0
p,m-Xylene		94.5	79.4	132.2	14.5	30.0
o-Xylene		93.4	80.2	131.0	15.6	30.0
Styrene		97.9	69.5	126.7	14.1	30.0
Isopropylbenzene		94.8	74.4	121.5	15.8	30.0
Bromoform		103.5	69.4	128.0	9.3	30.0
1,1,2,2-Tetrachloroethane		104.4	79.8	126.3	4.1	30.0
1,2,3-Trichloropropane		103.7	78.3	138.8	7.1	30.0
n-Propylbenzene		95.6	82.0	130.7	15.2	30.0
Bromobenzene		97.3	78.7	124.6	14.7	30.0
1,3,5-Trimethylbenzene		95.8	81.3	128.9	16.5	30.0
tert-Butylbenzene		94.5	80.7	128.9	15.5	30.0
1,2,4-Trimethylbenzene		96.2	81.4	130.8	15.2	30.0
sec-Butylbenzene		93.2	77.4	129.8	16.2	30.0
p-Isopropyltoluene		93.5	79.8	137.5	15.7	30.0
1,3-Dichlorobenzene		94.7	77.0	131.3	13.5	30.0
1,4-Dichlorobenzene		95.0	20.7	137.7	13.9	30.0
1,2-Dichlorobenzene		96.0	10.0	166.2	13.6	30.0
1,2,3-Trimethylbenzene		93.3	76.3	124.2	14.9	30.0
n-Butylbenzene		94.0	80.0	133.3	14.5	30.0
Hexachloroethane		100.4	23.8	138.1	13.0	30.0
1,2-Dibromo-3-chloropropane		112.3	21.2	189.4	3.4	30.0
1,2,4-Trichlorobenzene		100.9	27.4	143.4	11.3	30.0
1,2,3-Trichlorobenzene		105.4	75.4	131.4	7.5	30.0
Naphthalene		110.3	32.9	135.8	4.0	30.0
2-Methylnaphthalene		109.0	25.5	165.5	5.8	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230919W1

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

Blank (BLK)

Lab Sample ID: 230919A9.BLKW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 15:18, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230919W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230919A9.BLKW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 15:18, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene	*	1.04	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:00, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		112.7	67.4	121.2
Acetone		88.4	29.9	161.5
Methyl iodide		113.2	68.8	116.4
Carbon disulfide		114.8	63.8	137.4
tert-Methyl butyl ether (MTBE)		109.1	73.2	122.4
Acrylonitrile		109.2	69.9	128.9
2-Butanone (MEK)		98.5	44.0	134.4
Dichlorodifluoromethane		110.8	10.0	222.8
Chloromethane		107.4	23.8	166.5
Vinyl chloride		108.7	43.5	149.1
Bromomethane		107.6	56.8	151.3
Chloroethane		108.8	53.4	149.4
Trichlorofluoromethane		107.5	59.7	151.8
1,1-Dichloroethene		113.0	69.6	139.4
Methylene chloride		110.3	73.3	121.1
trans-1,2-Dichloroethene		114.3	73.6	129.3
1,1-Dichloroethane		113.6	71.5	126.2
cis-1,2-Dichloroethene		111.9	76.6	122.1
Tetrahydrofuran		93.9	59.0	117.9
Chloroform		113.3	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230919W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:00, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		113.8	78.2	120.8
1,1,1-Trichloroethane		112.7	79.4	130.9
4-Methyl-2-pentanone (MIBK)		96.9	71.6	125.2
2-Hexanone		94.6	55.4	136.9
Carbon tetrachloride		113.5	72.6	133.0
Benzene		111.3	79.9	124.9
1,2-Dichloroethane		109.5	76.0	126.3
Trichloroethene		112.1	79.7	124.2
1,2-Dichloropropane		113.4	78.6	126.4
Bromodichloromethane		114.2	80.4	128.2
Dibromomethane		109.9	76.9	122.1
cis-1,3-Dichloropropene		114.7	79.8	129.9
Toluene		112.9	79.8	124.5
trans-1,3-Dichloropropene		114.9	74.0	131.3
1,1,2-Trichloroethane		112.7	78.7	123.1
Tetrachloroethene		111.9	74.5	124.5
trans-1,4-Dichloro-2-butene		106.4	68.6	135.4
Dibromochloromethane		108.9	74.6	127.2
1,2-Dibromoethane		108.7	70.3	133.7
Chlorobenzene		112.4	79.2	122.7
1,1,1,2-Tetrachloroethane		111.8	80.3	128.2
Ethylbenzene		112.2	79.5	129.1
p,m-Xylene		112.3	79.4	132.2
o-Xylene		113.0	80.2	131.0
Styrene		114.4	69.5	126.7
Isopropylbenzene		112.0	74.4	121.5
Bromoform		105.1	69.4	128.0
1,1,2,2-Tetrachloroethane		108.1	79.8	126.3
1,2,3-Trichloropropane		106.1	78.3	138.8
n-Propylbenzene		114.8	82.0	130.7
Bromobenzene		111.9	78.7	124.6
1,3,5-Trimethylbenzene		113.9	81.3	128.9
tert-Butylbenzene		112.7	80.7	128.9
1,2,4-Trimethylbenzene		113.3	81.4	130.8
sec-Butylbenzene		116.7	77.4	129.8
p-Isopropyltoluene		117.8	79.8	137.5
1,3-Dichlorobenzene		118.1	77.0	131.3
1,4-Dichlorobenzene		116.5	20.7	137.7
1,2-Dichlorobenzene		116.6	10.0	166.2
1,2,3-Trimethylbenzene		115.7	76.3	124.2
n-Butylbenzene		119.1	80.0	133.3
Hexachloroethane		115.4	23.8	138.1
1,2-Dibromo-3-chloropropane		101.5	21.2	189.4
1,2,4-Trichlorobenzene		119.7	27.4	143.4
1,2,3-Trichlorobenzene		118.7	75.4	131.4
Naphthalene		114.0	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230919W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:00, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		118.1	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230919A9.LCSDW19A, Parent Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:19, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		111.9	67.4	121.2	0.6	30.0
Acetone		95.7	29.9	161.5	8.0	30.0
Methyl iodide		105.7	68.8	116.4	6.9	30.0
Carbon disulfide		103.1	63.8	137.4	10.7	30.0
tert-Methyl butyl ether (MTBE)		108.8	73.2	122.4	0.3	30.0
Acrylonitrile		115.1	69.9	128.9	5.3	30.0
2-Butanone (MEK)		109.5	44.0	134.4	10.6	30.0
Dichlorodifluoromethane		98.0	10.0	222.8	12.3	30.0
Chloromethane		96.1	23.8	166.5	11.2	30.0
Vinyl chloride		95.8	43.5	149.1	12.6	30.0
Bromomethane		97.5	56.8	151.3	9.8	30.0
Chloroethane		97.3	53.4	149.4	11.2	30.0
Trichlorofluoromethane		98.0	59.7	151.8	9.3	30.0
1,1-Dichloroethene		103.3	69.6	139.4	9.0	30.0
Methylene chloride		104.0	73.3	121.1	5.9	30.0
trans-1,2-Dichloroethene		105.2	73.6	129.3	8.3	30.0
1,1-Dichloroethane		106.3	71.5	126.2	6.6	30.0
cis-1,2-Dichloroethene		107.4	76.6	122.1	4.1	30.0
Tetrahydrofuran		107.1	59.0	117.9	13.1	30.0
Chloroform		106.7	78.4	124.0	5.9	30.0
Bromochloromethane		107.7	78.2	120.8	5.5	30.0
1,1,1-Trichloroethane		104.6	79.4	130.9	7.5	30.0
4-Methyl-2-pentanone (MIBK)		105.8	71.6	125.2	8.8	30.0
2-Hexanone		106.8	55.4	136.9	12.2	30.0
Carbon tetrachloride		106.1	72.6	133.0	6.8	30.0
Benzene		106.7	79.9	124.9	4.3	30.0
1,2-Dichloroethane		106.4	76.0	126.3	2.9	30.0
Trichloroethene		105.2	79.7	124.2	6.3	30.0
1,2-Dichloropropane		110.3	78.6	126.4	2.8	30.0
Bromodichloromethane		109.9	80.4	128.2	3.8	30.0
Dibromomethane		108.5	76.9	122.1	1.2	30.0
cis-1,3-Dichloropropene		111.0	79.8	129.9	3.3	30.0
Toluene		107.1	79.8	124.5	5.3	30.0
trans-1,3-Dichloropropene		111.5	74.0	131.3	3.0	30.0
1,1,2-Trichloroethane		110.9	78.7	123.1	1.6	30.0
Tetrachloroethene		106.2	74.5	124.5	5.2	30.0
trans-1,4-Dichloro-2-butene		111.5	68.6	135.4	4.7	30.0
Dibromochloromethane		108.7	74.6	127.2	0.2	30.0
1,2-Dibromoethane		110.6	70.3	133.7	1.7	30.0
Chlorobenzene		108.1	79.2	122.7	3.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230919W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230919A9.LCSDW19A, Parent Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:19, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		108.8	80.3	128.2	2.7	30.0
Ethylbenzene		107.8	79.5	129.1	4.0	30.0
p,m-Xylene		106.6	79.4	132.2	5.2	30.0
o-Xylene		108.9	80.2	131.0	3.8	30.0
Styrene		110.6	69.5	126.7	3.4	30.0
Isopropylbenzene		107.1	74.4	121.5	4.5	30.0
Bromoform		108.5	69.4	128.0	3.1	30.0
1,1,2,2-Tetrachloroethane		110.4	79.8	126.3	2.1	30.0
1,2,3-Trichloropropane		108.8	78.3	138.8	2.6	30.0
n-Propylbenzene		107.8	82.0	130.7	6.3	30.0
Bromobenzene		109.9	78.7	124.6	1.9	30.0
1,3,5-Trimethylbenzene		107.9	81.3	128.9	5.4	30.0
tert-Butylbenzene		109.3	80.7	128.9	3.0	30.0
1,2,4-Trimethylbenzene		108.7	81.4	130.8	4.2	30.0
sec-Butylbenzene		108.4	77.4	129.8	7.4	30.0
p-Isopropyltoluene		109.6	79.8	137.5	7.3	30.0
1,3-Dichlorobenzene		110.1	77.0	131.3	7.0	30.0
1,4-Dichlorobenzene		110.0	20.7	137.7	5.7	30.0
1,2-Dichlorobenzene		112.1	10.0	166.2	3.9	30.0
1,2,3-Trimethylbenzene		108.4	76.3	124.2	6.6	30.0
n-Butylbenzene		111.0	80.0	133.3	7.0	30.0
Hexachloroethane		106.8	23.8	138.1	7.7	30.0
1,2-Dibromo-3-chloropropane		110.0	21.2	189.4	8.1	30.0
1,2,4-Trichlorobenzene		114.4	27.4	143.4	4.6	30.0
1,2,3-Trichlorobenzene		114.9	75.4	131.4	3.2	30.0
Naphthalene		116.5	32.9	135.8	2.2	30.0
2-Methylnaphthalene		121.2	25.5	165.5	2.6	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2

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

Blank (BLK)

Lab Sample ID: 230920A7.BLKW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 14:26, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230920A7.BLKW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 14:26, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 12:52, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		95.1	67.4	121.2
Acetone		102.8	29.9	161.5
Methyl iodide		101.8	68.8	116.4
Carbon disulfide		99.6	63.8	137.4
tert-Methyl butyl ether (MTBE)		98.7	73.2	122.4
Acrylonitrile		108.1	69.9	128.9
2-Butanone (MEK)		102.3	44.0	134.4
Dichlorodifluoromethane		84.0	10.0	222.8
Chloromethane		95.4	23.8	166.5
Vinyl chloride		95.0	43.5	149.1
Bromomethane		97.4	56.8	151.3
Chloroethane		96.1	53.4	149.4
Trichlorofluoromethane		96.9	59.7	151.8
1,1-Dichloroethene		98.9	69.6	139.4
Methylene chloride		96.7	73.3	121.1
trans-1,2-Dichloroethene		98.9	73.6	129.3
1,1-Dichloroethane		98.3	71.5	126.2
cis-1,2-Dichloroethene		100.1	76.6	122.1
Tetrahydrofuran		95.9	59.0	117.9
Chloroform		97.1	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 12:52, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		99.0	78.2	120.8
1,1,1-Trichloroethane		101.1	79.4	130.9
4-Methyl-2-pentanone (MIBK)		105.7	71.6	125.2
2-Hexanone		104.6	55.4	136.9
Carbon tetrachloride		102.3	72.6	133.0
Benzene		99.3	79.9	124.9
1,2-Dichloroethane		92.3	76.0	126.3
Trichloroethene		100.5	79.7	124.2
1,2-Dichloropropane		100.9	78.6	126.4
Bromodichloromethane		98.9	80.4	128.2
Dibromomethane		102.8	76.9	122.1
cis-1,3-Dichloropropene		102.4	79.8	129.9
Toluene		98.7	79.8	124.5
trans-1,3-Dichloropropene		100.3	74.0	131.3
1,1,2-Trichloroethane		101.0	78.7	123.1
Tetrachloroethene		103.5	74.5	124.5
trans-1,4-Dichloro-2-butene		102.5	68.6	135.4
Dibromochloromethane		103.2	74.6	127.2
1,2-Dibromoethane		102.1	70.3	133.7
Chlorobenzene		99.2	79.2	122.7
1,1,1,2-Tetrachloroethane		101.1	80.3	128.2
Ethylbenzene		98.9	79.5	129.1
p,m-Xylene		99.3	79.4	132.2
o-Xylene		97.5	80.2	131.0
Styrene		100.4	69.5	126.7
Isopropylbenzene		100.6	74.4	121.5
Bromoform		104.3	69.4	128.0
1,1,2,2-Tetrachloroethane		102.4	79.8	126.3
1,2,3-Trichloropropane		103.6	78.3	138.8
n-Propylbenzene		101.5	82.0	130.7
Bromobenzene		100.4	78.7	124.6
1,3,5-Trimethylbenzene		102.2	81.3	128.9
tert-Butylbenzene		99.3	80.7	128.9
1,2,4-Trimethylbenzene		100.7	81.4	130.8
sec-Butylbenzene		101.4	77.4	129.8
p-Isopropyltoluene		101.9	79.8	137.5
1,3-Dichlorobenzene		99.6	77.0	131.3
1,4-Dichlorobenzene		100.1	20.7	137.7
1,2-Dichlorobenzene		98.5	10.0	166.2
1,2,3-Trimethylbenzene		97.7	76.3	124.2
n-Butylbenzene		104.0	80.0	133.3
Hexachloroethane		109.2	23.8	138.1
1,2-Dibromo-3-chloropropane		113.7	21.2	189.4
1,2,4-Trichlorobenzene		106.6	27.4	143.4
1,2,3-Trichlorobenzene		108.3	75.4	131.4
Naphthalene		110.1	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 12:52, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		104.1	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230920A7.LCSDW20A, Parent Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 13:16, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		98.8	67.4	121.2	3.8	30.0
Acetone		98.9	29.9	161.5	3.9	30.0
Methyl iodide		101.3	68.8	116.4	0.5	30.0
Carbon disulfide		97.1	63.8	137.4	2.5	30.0
tert-Methyl butyl ether (MTBE)		102.1	73.2	122.4	3.4	30.0
Acrylonitrile		109.5	69.9	128.9	1.3	30.0
2-Butanone (MEK)		103.4	44.0	134.4	1.1	30.0
Dichlorodifluoromethane		82.9	10.0	222.8	1.4	30.0
Chloromethane		94.0	23.8	166.5	1.5	30.0
Vinyl chloride		92.6	43.5	149.1	2.6	30.0
Bromomethane		101.0	56.8	151.3	3.6	30.0
Chloroethane		94.8	53.4	149.4	1.4	30.0
Trichlorofluoromethane		95.1	59.7	151.8	1.8	30.0
1,1-Dichloroethene		96.3	69.6	139.4	2.6	30.0
Methylene chloride		97.4	73.3	121.1	0.8	30.0
trans-1,2-Dichloroethene		96.0	73.6	129.3	3.0	30.0
1,1-Dichloroethane		98.0	71.5	126.2	0.4	30.0
cis-1,2-Dichloroethene		99.2	76.6	122.1	0.9	30.0
Tetrahydrofuran		100.7	59.0	117.9	4.8	30.0
Chloroform		97.1	78.4	124.0	0.0	30.0
Bromochloromethane		102.6	78.2	120.8	3.6	30.0
1,1,1-Trichloroethane		100.1	79.4	130.9	1.0	30.0
4-Methyl-2-pentanone (MIBK)		105.6	71.6	125.2	0.1	30.0
2-Hexanone		109.8	55.4	136.9	4.8	30.0
Carbon tetrachloride		101.7	72.6	133.0	0.6	30.0
Benzene		99.0	79.9	124.9	0.3	30.0
1,2-Dichloroethane		94.5	76.0	126.3	2.3	30.0
Trichloroethene		100.2	79.7	124.2	0.3	30.0
1,2-Dichloropropane		100.4	78.6	126.4	0.5	30.0
Bromodichloromethane		100.8	80.4	128.2	1.8	30.0
Dibromomethane		107.9	76.9	122.1	4.9	30.0
cis-1,3-Dichloropropene		106.2	79.8	129.9	3.6	30.0
Toluene		99.0	79.8	124.5	0.2	30.0
trans-1,3-Dichloropropene		102.8	74.0	131.3	2.4	30.0
1,1,2-Trichloroethane		103.7	78.7	123.1	2.6	30.0
Tetrachloroethene		102.5	74.5	124.5	1.0	30.0
trans-1,4-Dichloro-2-butene		101.8	68.6	135.4	0.7	30.0
Dibromochloromethane		107.3	74.6	127.2	3.8	30.0
1,2-Dibromoethane		106.5	70.3	133.7	4.2	30.0
Chlorobenzene		99.4	79.2	122.7	0.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230920A7.LCSDW20A, Parent Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 13:16, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		103.0	80.3	128.2	1.9	30.0
Ethylbenzene		99.6	79.5	129.1	0.7	30.0
p,m-Xylene		100.1	79.4	132.2	0.8	30.0
o-Xylene		98.7	80.2	131.0	1.2	30.0
Styrene		102.0	69.5	126.7	1.7	30.0
Isopropylbenzene		99.9	74.4	121.5	0.6	30.0
Bromoform		108.6	69.4	128.0	4.1	30.0
1,1,2,2-Tetrachloroethane		104.8	79.8	126.3	2.2	30.0
1,2,3-Trichloropropane		104.7	78.3	138.8	1.0	30.0
n-Propylbenzene		102.2	82.0	130.7	0.7	30.0
Bromobenzene		102.4	78.7	124.6	2.0	30.0
1,3,5-Trimethylbenzene		101.5	81.3	128.9	0.7	30.0
tert-Butylbenzene		99.4	80.7	128.9	0.1	30.0
1,2,4-Trimethylbenzene		101.9	81.4	130.8	1.2	30.0
sec-Butylbenzene		100.1	77.4	129.8	1.3	30.0
p-Isopropyltoluene		99.9	79.8	137.5	1.9	30.0
1,3-Dichlorobenzene		99.7	77.0	131.3	0.1	30.0
1,4-Dichlorobenzene		99.5	20.7	137.7	0.5	30.0
1,2-Dichlorobenzene		99.4	10.0	166.2	1.0	30.0
1,2,3-Trimethylbenzene		97.6	76.3	124.2	0.2	30.0
n-Butylbenzene		101.8	80.0	133.3	2.1	30.0
Hexachloroethane		108.9	23.8	138.1	0.3	30.0
1,2-Dibromo-3-chloropropane		112.7	21.2	189.4	0.8	30.0
1,2,4-Trichlorobenzene		106.1	27.4	143.4	0.5	30.0
1,2,3-Trichlorobenzene		107.7	75.4	131.4	0.5	30.0
Naphthalene		109.0	32.9	135.8	1.0	30.0
2-Methylnaphthalene		102.5	25.5	165.5	1.6	30.0

Matrix Spike (MS)

Lab Sample ID: 230920A7.5339206M, Parent Sample ID: S53392.05

Run in Batch: 230920A7, Run Date: 09/20/2023 21:42, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		106.2	67.4	121.2
Acetone		99.1	29.9	161.5
Methyl iodide		106.0	68.8	116.4
Carbon disulfide		99.8	63.8	137.4
tert-Methyl butyl ether (MTBE)		109.4	73.2	122.4
Acrylonitrile		106.7	69.9	128.9
2-Butanone (MEK)		99.1	44.0	134.4
Dichlorodifluoromethane		83.5	10.0	222.8
Chloromethane		98.4	23.8	166.5
Vinyl chloride		93.2	43.5	149.1
Bromomethane		105.1	56.8	151.3
Chloroethane		98.8	53.4	149.4
Trichlorofluoromethane	*	54.8	59.7	151.8
1,1-Dichloroethene		98.2	69.6	139.4

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230920A7.5339206M, Parent Sample ID: S53392.05

Run in Batch: 230920A7, Run Date: 09/20/2023 21:42, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Methylene chloride		104.8	73.3	121.1
trans-1,2-Dichloroethene		101.4	73.6	129.3
1,1-Dichloroethane		103.4	71.5	126.2
cis-1,2-Dichloroethene		107.4	76.6	122.1
Tetrahydrofuran		93.2	59.0	117.9
Chloroform		103.8	78.4	124.0
Bromochloromethane		109.8	78.2	120.8
1,1,1-Trichloroethane		101.3	79.4	130.9
4-Methyl-2-pentanone (MIBK)		104.1	71.6	125.2
2-Hexanone		104.9	55.4	136.9
Carbon tetrachloride		99.9	72.6	133.0
Benzene		102.6	79.9	124.9
1,2-Dichloroethane		100.2	76.0	126.3
Trichloroethene		101.8	79.7	124.2
1,2-Dichloropropane		108.5	78.6	126.4
Bromodichloromethane		106.3	80.4	128.2
Dibromomethane		108.6	76.9	122.1
cis-1,3-Dichloropropene		108.6	79.8	129.9
Toluene		102.6	79.8	124.5
trans-1,3-Dichloropropene		103.4	74.0	131.3
1,1,2-Trichloroethane		106.1	78.7	123.1
Tetrachloroethene		102.0	74.5	124.5
trans-1,4-Dichloro-2-butene		82.0	68.6	135.4
Dibromochloromethane		107.8	74.6	127.2
1,2-Dibromoethane		105.2	70.3	133.7
Chlorobenzene		102.1	79.2	122.7
1,1,1,2-Tetrachloroethane		107.3	80.3	128.2
Ethylbenzene		100.3	79.5	129.1
p,m-Xylene		100.7	79.4	132.2
o-Xylene		100.6	80.2	131.0
Styrene		104.8	69.5	126.7
Isopropylbenzene		100.2	74.4	121.5
Bromoform		102.2	69.4	128.0
1,1,2,2-Tetrachloroethane		101.7	79.8	126.3
1,2,3-Trichloropropane		99.9	78.3	138.8
n-Propylbenzene		101.6	82.0	130.7
Bromobenzene		105.5	78.7	124.6
1,3,5-Trimethylbenzene		101.9	81.3	128.9
tert-Butylbenzene		99.0	80.7	128.9
1,2,4-Trimethylbenzene		103.5	81.4	130.8
sec-Butylbenzene		94.5	77.4	129.8
p-Isopropyltoluene		96.3	79.8	137.5
1,3-Dichlorobenzene		99.1	77.0	131.3
1,4-Dichlorobenzene		100.6	20.7	137.7
1,2-Dichlorobenzene		100.5	10.0	166.2
1,2,3-Trimethylbenzene		100.2	76.3	124.2

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230920A7.5339206M, Parent Sample ID: S53392.05

Run in Batch: 230920A7, Run Date: 09/20/2023 21:42, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
n-Butylbenzene		96.5	80.0	133.3
Hexachloroethane		101.7	23.8	138.1
1,2-Dibromo-3-chloropropane		103.5	21.2	189.4
1,2,4-Trichlorobenzene		105.1	27.4	143.4
1,2,3-Trichlorobenzene		107.8	75.4	131.4
Naphthalene		107.6	32.9	135.8
2-Methylnaphthalene		110.1	25.5	165.5

Matrix Spike (MS)

Lab Sample ID: 230920A7.5340402M, Parent Sample ID: S53404.01

Run in Batch: 230920A7, Run Date: 09/20/2023 22:29, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		93.2	67.4	121.2
Acetone		89.6	29.9	161.5
Methyl iodide		97.8	68.8	116.4
Carbon disulfide		93.3	63.8	137.4
tert-Methyl butyl ether (MTBE)		100.8	73.2	122.4
Acrylonitrile		102.2	69.9	128.9
2-Butanone (MEK)		93.8	44.0	134.4
Dichlorodifluoromethane		80.8	10.0	222.8
Chloromethane		91.7	23.8	166.5
Vinyl chloride		91.3	43.5	149.1
Bromomethane		94.6	56.8	151.3
Chloroethane		93.3	53.4	149.4
Trichlorofluoromethane		60.0	59.7	151.8
1,1-Dichloroethene		94.5	69.6	139.4
Methylene chloride		94.0	73.3	121.1
trans-1,2-Dichloroethene		94.9	73.6	129.3
1,1-Dichloroethane		95.2	71.5	126.2
cis-1,2-Dichloroethene		97.2	76.6	122.1
Tetrahydrofuran		90.3	59.0	117.9
Chloroform		94.5	78.4	124.0
Bromochloromethane		98.1	78.2	120.8
1,1,1-Trichloroethane		97.6	79.4	130.9
4-Methyl-2-pentanone (MIBK)		98.7	71.6	125.2
2-Hexanone		102.5	55.4	136.9
Carbon tetrachloride		98.9	72.6	133.0
Benzene		97.6	79.9	124.9
1,2-Dichloroethane		94.2	76.0	126.3
Trichloroethene		98.7	79.7	124.2
1,2-Dichloropropane		100.6	78.6	126.4
Bromodichloromethane		99.6	80.4	128.2
Dibromomethane		104.2	76.9	122.1
cis-1,3-Dichloropropene		101.1	79.8	129.9
Toluene		97.7	79.8	124.5
trans-1,3-Dichloropropene		99.2	74.0	131.3

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230920A7.5340402M, Parent Sample ID: S53404.01

Run in Batch: 230920A7, Run Date: 09/20/2023 22:29, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloroethane		100.2	78.7	123.1
Tetrachloroethene		102.1	74.5	124.5
trans-1,4-Dichloro-2-butene		78.4	68.6	135.4
Dibromochloromethane		101.1	74.6	127.2
1,2-Dibromoethane		100.7	70.3	133.7
Chlorobenzene		95.8	79.2	122.7
1,1,1,2-Tetrachloroethane		98.8	80.3	128.2
Ethylbenzene		96.6	79.5	129.1
p,m-Xylene		96.5	79.4	132.2
o-Xylene		95.2	80.2	131.0
Styrene		96.9	69.5	126.7
Isopropylbenzene		98.0	74.4	121.5
Bromoform		99.0	69.4	128.0
1,1,2,2-Tetrachloroethane		98.9	79.8	126.3
1,2,3-Trichloropropane		97.1	78.3	138.8
n-Propylbenzene		98.8	82.0	130.7
Bromobenzene		99.1	78.7	124.6
1,3,5-Trimethylbenzene		98.6	81.3	128.9
tert-Butylbenzene		97.3	80.7	128.9
1,2,4-Trimethylbenzene		98.1	81.4	130.8
sec-Butylbenzene		97.6	77.4	129.8
p-Isopropyltoluene		97.8	79.8	137.5
1,3-Dichlorobenzene		97.4	77.0	131.3
1,4-Dichlorobenzene		98.1	20.7	137.7
1,2-Dichlorobenzene		97.1	10.0	166.2
1,2,3-Trimethylbenzene		96.0	76.3	124.2
n-Butylbenzene		98.5	80.0	133.3
Hexachloroethane		104.5	23.8	138.1
1,2-Dibromo-3-chloropropane		103.4	21.2	189.4
1,2,4-Trichlorobenzene		100.8	27.4	143.4
1,2,3-Trichlorobenzene		102.9	75.4	131.4
Naphthalene		103.4	32.9	135.8
2-Methylnaphthalene		102.1	25.5	165.5

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230920A7.5339207N, Parent Sample ID: 230920A7.5339206M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:05, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		109.5	67.4	121.2	3.1	30.0
Acetone		98.4	29.9	161.5	0.7	30.0
Methyl iodide		109.2	68.8	116.4	2.9	30.0
Carbon disulfide		100.8	63.8	137.4	1.0	30.0
tert-Methyl butyl ether (MTBE)		107.7	73.2	122.4	1.5	30.0
Acrylonitrile		111.7	69.9	128.9	4.5	30.0
2-Butanone (MEK)		108.3	44.0	134.4	8.8	30.0
Dichlorodifluoromethane		84.5	10.0	222.8	1.2	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 230920A7.5339207N, Parent Sample ID: 230920A7.5339206M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:05, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chloromethane		101.4	23.8	166.5	3.0	30.0
Vinyl chloride		97.4	43.5	149.1	4.4	30.0
Bromomethane		105.5	56.8	151.3	0.4	30.0
Chloroethane		100.0	53.4	149.4	1.2	30.0
Trichlorofluoromethane	*	57.6	59.7	151.8	5.0	30.0
1,1-Dichloroethene		100.3	69.6	139.4	2.0	30.0
Methylene chloride		106.1	73.3	121.1	1.2	30.0
trans-1,2-Dichloroethene		102.7	73.6	129.3	1.3	30.0
1,1-Dichloroethane		105.5	71.5	126.2	2.1	30.0
cis-1,2-Dichloroethene		107.9	76.6	122.1	0.4	30.0
Tetrahydrofuran		96.3	59.0	117.9	3.2	30.0
Chloroform		105.7	78.4	124.0	1.8	30.0
Bromochloromethane		111.6	78.2	120.8	1.6	30.0
1,1,1-Trichloroethane		104.2	79.4	130.9	2.8	30.0
4-Methyl-2-pentanone (MIBK)		110.2	71.6	125.2	5.7	30.0
2-Hexanone		119.4	55.4	136.9	12.9	30.0
Carbon tetrachloride		101.8	72.6	133.0	1.9	30.0
Benzene		103.6	79.9	124.9	0.9	30.0
1,2-Dichloroethane		101.2	76.0	126.3	1.0	30.0
Trichloroethene		101.1	79.7	124.2	0.7	30.0
1,2-Dichloropropane		108.9	78.6	126.4	0.3	30.0
Bromodichloromethane		108.2	80.4	128.2	1.7	30.0
Dibromomethane		113.0	76.9	122.1	4.0	30.0
cis-1,3-Dichloropropene		110.9	79.8	129.9	2.1	30.0
Toluene		103.8	79.8	124.5	1.2	30.0
trans-1,3-Dichloropropene		106.8	74.0	131.3	3.3	30.0
1,1,2-Trichloroethane		108.6	78.7	123.1	2.4	30.0
Tetrachloroethene		104.6	74.5	124.5	2.5	30.0
trans-1,4-Dichloro-2-butene		87.1	68.6	135.4	6.0	30.0
Dibromochloromethane		108.2	74.6	127.2	0.4	30.0
1,2-Dibromoethane		106.8	70.3	133.7	1.5	30.0
Chlorobenzene		100.7	79.2	122.7	1.4	30.0
1,1,1,2-Tetrachloroethane		107.4	80.3	128.2	0.1	30.0
Ethylbenzene		98.9	79.5	129.1	1.4	30.0
p,m-Xylene		98.0	79.4	132.2	2.7	30.0
o-Xylene		98.2	80.2	131.0	2.4	30.0
Styrene		102.8	69.5	126.7	1.9	30.0
Isopropylbenzene		98.8	74.4	121.5	1.4	30.0
Bromoform		106.6	69.4	128.0	4.2	30.0
1,1,2,2-Tetrachloroethane		105.1	79.8	126.3	3.2	30.0
1,2,3-Trichloropropane		105.0	78.3	138.8	5.0	30.0
n-Propylbenzene		99.1	82.0	130.7	2.5	30.0
Bromobenzene		104.3	78.7	124.6	1.2	30.0
1,3,5-Trimethylbenzene		101.5	81.3	128.9	0.4	30.0
tert-Butylbenzene		97.8	80.7	128.9	1.2	30.0
1,2,4-Trimethylbenzene		101.2	81.4	130.8	2.3	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 230920A7.5339207N, Parent Sample ID: 230920A7.5339206M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:05, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
sec-Butylbenzene		95.1	77.4	129.8	0.6	30.0
p-Isopropyltoluene		96.5	79.8	137.5	0.3	30.0
1,3-Dichlorobenzene		99.5	77.0	131.3	0.5	30.0
1,4-Dichlorobenzene		100.7	20.7	137.7	0.2	30.0
1,2-Dichlorobenzene		100.9	10.0	166.2	0.3	30.0
1,2,3-Trimethylbenzene		98.3	76.3	124.2	1.9	30.0
n-Butylbenzene		97.7	80.0	133.3	1.3	30.0
Hexachloroethane		104.7	23.8	138.1	2.8	30.0
1,2-Dibromo-3-chloropropane		113.1	21.2	189.4	8.8	30.0
1,2,4-Trichlorobenzene		107.3	27.4	143.4	2.1	30.0
1,2,3-Trichlorobenzene		111.0	75.4	131.4	3.0	30.0
Naphthalene		114.0	32.9	135.8	5.8	30.0
2-Methylnaphthalene		121.8	25.5	165.5	10.1	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230920A7.5340403N, Parent Sample ID: 230920A7.5340402M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:53, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		96.9	67.4	121.2	3.8	30.0
Acetone		96.4	29.9	161.5	7.3	30.0
Methyl iodide		102.7	68.8	116.4	4.9	30.0
Carbon disulfide		100.1	63.8	137.4	6.9	30.0
tert-Methyl butyl ether (MTBE)		100.2	73.2	122.4	0.6	30.0
Acrylonitrile		105.9	69.9	128.9	3.5	30.0
2-Butanone (MEK)		95.1	44.0	134.4	1.4	30.0
Dichlorodifluoromethane		86.1	10.0	222.8	6.3	30.0
Chloromethane		96.9	23.8	166.5	5.5	30.0
Vinyl chloride		96.6	43.5	149.1	5.7	30.0
Bromomethane		99.3	56.8	151.3	4.8	30.0
Chloroethane		99.5	53.4	149.4	6.5	30.0
Trichlorofluoromethane	*	54.2	59.7	151.8	10.2	30.0
1,1-Dichloroethene		98.8	69.6	139.4	4.5	30.0
Methylene chloride		97.3	73.3	121.1	3.4	30.0
trans-1,2-Dichloroethene		100.3	73.6	129.3	5.5	30.0
1,1-Dichloroethane		99.9	71.5	126.2	4.8	30.0
cis-1,2-Dichloroethene		99.2	76.6	122.1	2.1	30.0
Tetrahydrofuran		86.3	59.0	117.9	4.5	30.0
Chloroform		98.0	78.4	124.0	3.7	30.0
Bromochloromethane		99.0	78.2	120.8	0.9	30.0
1,1,1-Trichloroethane		102.0	79.4	130.9	4.3	30.0
4-Methyl-2-pentanone (MIBK)		102.3	71.6	125.2	3.6	30.0
2-Hexanone		103.7	55.4	136.9	1.2	30.0
Carbon tetrachloride		104.9	72.6	133.0	5.9	30.0
Benzene		100.7	79.9	124.9	3.2	30.0
1,2-Dichloroethane		94.3	76.0	126.3	0.1	30.0
Trichloroethene		102.1	79.7	124.2	3.5	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 230920A7.5340403N, Parent Sample ID: 230920A7.5340402M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:53, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2-Dichloropropane		102.4	78.6	126.4	1.8	30.0
Bromodichloromethane		101.3	80.4	128.2	1.8	30.0
Dibromomethane		106.0	76.9	122.1	1.7	30.0
cis-1,3-Dichloropropene		103.2	79.8	129.9	2.0	30.0
Toluene		101.1	79.8	124.5	3.4	30.0
trans-1,3-Dichloropropene		100.2	74.0	131.3	1.0	30.0
1,1,2-Trichloroethane		102.3	78.7	123.1	2.1	30.0
Tetrachloroethene		104.5	74.5	124.5	2.3	30.0
trans-1,4-Dichloro-2-butene		85.2	68.6	135.4	8.4	30.0
Dibromochloromethane		104.9	74.6	127.2	3.6	30.0
1,2-Dibromoethane		104.7	70.3	133.7	3.8	30.0
Chlorobenzene		100.1	79.2	122.7	4.4	30.0
1,1,1,2-Tetrachloroethane		104.7	80.3	128.2	5.8	30.0
Ethylbenzene		102.9	79.5	129.1	6.4	30.0
p,m-Xylene		100.5	79.4	132.2	4.0	30.0
o-Xylene		100.9	80.2	131.0	5.9	30.0
Styrene		100.9	69.5	126.7	4.1	30.0
Isopropylbenzene		103.4	74.4	121.5	5.4	30.0
Bromoform		102.2	69.4	128.0	3.2	30.0
1,1,2,2-Tetrachloroethane		102.5	79.8	126.3	3.6	30.0
1,2,3-Trichloropropane		100.5	78.3	138.8	3.5	30.0
n-Propylbenzene		103.9	82.0	130.7	5.0	30.0
Bromobenzene		101.5	78.7	124.6	2.4	30.0
1,3,5-Trimethylbenzene		104.7	81.3	128.9	5.9	30.0
tert-Butylbenzene		102.8	80.7	128.9	5.5	30.0
1,2,4-Trimethylbenzene		103.9	81.4	130.8	5.8	30.0
sec-Butylbenzene		102.4	77.4	129.8	4.7	30.0
p-Isopropyltoluene		102.1	79.8	137.5	4.2	30.0
1,3-Dichlorobenzene		100.5	77.0	131.3	3.1	30.0
1,4-Dichlorobenzene		101.2	20.7	137.7	3.1	30.0
1,2-Dichlorobenzene		100.4	10.0	166.2	3.3	30.0
1,2,3-Trimethylbenzene		99.7	76.3	124.2	3.8	30.0
n-Butylbenzene		102.8	80.0	133.3	4.3	30.0
Hexachloroethane		110.3	23.8	138.1	5.4	30.0
1,2-Dibromo-3-chloropropane		108.5	21.2	189.4	4.8	30.0
1,2,4-Trichlorobenzene		106.2	27.4	143.4	5.3	30.0
1,2,3-Trichlorobenzene		106.2	75.4	131.4	3.2	30.0
Naphthalene		109.0	32.9	135.8	5.2	30.0
2-Methylnaphthalene		102.8	25.5	165.5	0.7	30.0

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE 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.

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RACER Flint West #12990 SAMPLER(S) - PLEASE PRINT/SIGN NAME
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 GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
CODE: SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIFE A=AIR W=WASTE

Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	VOCs	Metals, dissolved*	Metals, Total*	Certifications
	DATE	TIME													
5338201	9/14	9:50	MW-10652-230914	W	5	X	X	X				X	X	X	☐ OHIO VAP ☐ Drinking Water
02	9/14	9:28	Field Blank	W	5	X	X	X				X	X	X	☐ DoD ☐ NPDES
03	9/14	10:50	MW-1125-230914	W	5	X	X	X				X	X	X	Project Locations
04	9/14	12:00	MW-1175-230914	W	5	X	X	X				X	X	X	☐ Detroit ☐ New York
05	9/14	12:55	MW-1035-230914	W	5	X	X	X				X	X	X	☐ Other
06	9/14	12:55	MSD MW-1035-230914	W	5	X	X	X				X	X	X	Special Instructions
07	9/14	12:55	MSD MW-1035-230914	W	5	X	X	X				X	X	X	* - Metals list includes:
08	9/14	13:55	MW-1095-230914	W	5	X	X	X				X	X	X	Ar, Cr-total, CR-Hex, Cu
~~09~~	~~9/14~~	~~14:00~~	~~MW-1145-230914~~	~~W~~	~~5~~	~~X~~	~~X~~	~~X~~				~~X~~	~~X~~	~~X~~	Pb, Se, Zn
~~10~~	~~9/14~~	~~14:00~~	~~DUP-1-230914~~	~~W~~	~~5~~	~~X~~	~~X~~	~~X~~				~~X~~	~~X~~	~~X~~	report down to MCLs

RELINQUISHED BY: AE DATE 9/14/13 TIME 14:42
SIGNATURE/ORGANIZATION
RECEIVED BY: Monica Wallingford DATE 9/14/13 TIME 14:40
SIGNATURE/ORGANIZATION
RELINQUISHED BY: John Wallingford DATE 9/14/13 TIME 15:45
SIGNATURE/ORGANIZATION
RECEIVED BY: Rodney Abke DATE 9/14/13 TIME 15:45
SIGNATURE/ORGANIZATION

RELINQUISHED BY: DATE TIME
SIGNATURE/ORGANIZATION
RECEIVED BY: DATE TIME
SIGNATURE/ORGANIZATION
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
NOTES: TEMP. ON ARRIVAL 3.8



Quality Control Report

Report ID: QC-S53396-01
Generated on 10/05/2023

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): S53396.01-S53396.08
Project: RACER Flint West #12990
Submitted Date/Time: 09/14/2023 15:45
Sampled by: Unknown
P.O. #: 795930

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-9)
Prep Batch Summary (Page 10)
Internal Standards per Lab Sample (Pages 11-16)
Internal Standards per QC Sample (Pages 17-21)
Batch QC Results (Pages 22-26)

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: S53396.01

Sample Tag: MW-106SR-230914

Collected Date/Time: 09/14/2023 09:50

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
28 PFAs	ASTMD7979-19M	09/18/23 18:07	AK230918	PF230918W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53396.02

Sample Tag: Field Blank

Collected Date/Time: 09/14/2023 09:28

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	09/18/23 18:26	AK230918	PF230918W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53396.03

Sample Tag: MW-112S-230914

Collected Date/Time: 09/14/2023 10:50

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	09/18/23 18:46	AK230918	PF230918W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53396.04

Sample Tag: MW-117S-230914

Collected Date/Time: 09/14/2023 12:00

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
28 PFAs	ASTMD7979-19M	09/18/23 19:05	AK230918	PF230918W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53396.05

Sample Tag: MW-103S-230914

Collected Date/Time: 09/14/2023 12:55

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	09/18/23 19:25	AK230918	PF230918W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53396.06

Sample Tag: MS MW-103S-230914

Collected Date/Time: 09/14/2023 12:55

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	09/18/23 19:44	AK230918	PF230918W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53396.07

Sample Tag: MSD MW-103S-230914

Collected Date/Time: 09/14/2023 12:55

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
28 PFAs	ASTMD7979-19M	09/18/23 20:04	AK230918	PF230918W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53396.08

Sample Tag: MW-108S-230914

Collected Date/Time: 09/14/2023 13:55

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	09/18/23 20:23	AK230918	PF230918W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF230918W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53396.01	28 PFAs	ASTMD7979-19M	09/18/23 18:07	AK230918
S53396.02	28 PFAs	ASTMD7979-19M	09/18/23 18:26	AK230918
S53396.03	28 PFAs	ASTMD7979-19M	09/18/23 18:46	AK230918
S53396.04	28 PFAs	ASTMD7979-19M	09/18/23 19:05	AK230918
S53396.05	28 PFAs	ASTMD7979-19M	09/18/23 19:25	AK230918
S53396.06	28 PFAs	ASTMD7979-19M	09/18/23 19:44	AK230918
S53396.07	28 PFAs	ASTMD7979-19M	09/18/23 20:04	AK230918
S53396.08	28 PFAs	ASTMD7979-19M	09/18/23 20:23	AK230918

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53396.01

Sample Tag: MW-106SR-230914

Collected Date/Time: 09/14/2023 09:50

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK230918, Run Date: 09/18/2023 18:07, Matrix: WW, Dilution: 2.02

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		101.4	50.0	150.0
M2-6:2FTSA		114.9	50.0	150.0
M2-8:2FTSA		99.1	50.0	150.0
M2PFTeDA		136.9	12.0	218.0
M3PFBS		117.7	50.0	150.0
M3PFHxS		112.9	50.0	150.0
M4PFHpA		106.1	50.0	150.0
M5PFHxA		100.3	50.0	150.0
M5PFPeA		114.7	50.0	150.0
M6PFDA		98.3	50.0	150.0
M7PFUnDA		113.9	50.0	150.0
M8FOSA		117.6	50.0	150.0
M8PFOA		101.6	50.0	150.0
M8PFOS		112.9	50.0	150.0
M9-PFNA		106.4	50.0	150.0
MPFBA		107.9	50.0	150.0
MPFDoDA		105.0	50.0	150.0
d3N-MeFOSAA		101.9	50.0	150.0
d5EtFOSAA		113.1	50.0	150.0
MHFPO-DA		114.9	50.0	150.0
d-N-EtFOSA-M		105.6	50.0	150.0
d-N-MeFOSA-M		108.0	50.0	150.0
d7-N-MeFOSE-M		102.6	50.0	150.0
d9-N-EtFOSE-M		109.0	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53396.02

Sample Tag: Field Blank

Collected Date/Time: 09/14/2023 09:28

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK230918, Run Date: 09/18/2023 18:26, Matrix: WW, Dilution: 2.07

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		115.1	50.0	150.0
M2-6:2FTSA		110.4	50.0	150.0
M2-8:2FTSA		116.7	50.0	150.0
M2PFTeDA		126.1	12.0	218.0
M3PFBS		109.6	50.0	150.0
M3PFHxS		128.7	50.0	150.0
M4PFHpA		115.5	50.0	150.0
M5PFHxA		112.1	50.0	150.0
M5PFPeA		115.3	50.0	150.0
M6PFDA		90.1	50.0	150.0
M7PFUnDA		120.9	50.0	150.0
M8FOSA		111.9	50.0	150.0
M8PFOA		111.8	50.0	150.0
M8PFOS		103.5	50.0	150.0
M9-PFNA		103.8	50.0	150.0
MPFBA		111.3	50.0	150.0
MPFDoDA		121.3	50.0	150.0
d3N-MeFOSAA		103.2	50.0	150.0
d5EtFOSAA		127.2	50.0	150.0
MHFPO-DA		103.7	50.0	150.0
d-N-EtFOSA-M		100.4	50.0	150.0
d-N-MeFOSA-M		114.4	50.0	150.0
d7-N-MeFOSE-M		107.9	50.0	150.0
d9-N-EtFOSE-M		106.3	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53396.03

Sample Tag: MW-112S-230914

Collected Date/Time: 09/14/2023 10:50

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK230918, Run Date: 09/18/2023 18:46, Matrix: WW, Dilution: 1.94

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		148.5	50.0	150.0
M2-6:2FTSA		133.9	50.0	150.0
M2-8:2FTSA		125.8	50.0	150.0
M2PFTeDA		137.4	12.0	218.0
M3PFBS		111.0	50.0	150.0
M3PFHxS		112.0	50.0	150.0
M4PFHpA		120.8	50.0	150.0
M5PFHxA		101.2	50.0	150.0
M5PFPeA		114.1	50.0	150.0
M6PFDA		106.4	50.0	150.0
M7PFUnDA		129.7	50.0	150.0
M8FOSA		123.9	50.0	150.0
M8PFOA		117.3	50.0	150.0
M8PFOS		107.6	50.0	150.0
M9-PFNA		85.4	50.0	150.0
MPFBA		111.4	50.0	150.0
MPFDoDA		112.0	50.0	150.0
d3N-MeFOSAA		116.4	50.0	150.0
d5EtFOSAA		115.7	50.0	150.0
MHFPO-DA		100.1	50.0	150.0
d-N-EtFOSA-M		108.0	50.0	150.0
d-N-MeFOSA-M		111.1	50.0	150.0
d7-N-MeFOSE-M		117.3	50.0	150.0
d9-N-EtFOSE-M		114.3	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53396.04

Sample Tag: MW-117S-230914

Collected Date/Time: 09/14/2023 12:00

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK230918, Run Date: 09/18/2023 19:05, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		112.0	50.0	150.0
M2-6:2FTSA		101.8	50.0	150.0
M2-8:2FTSA		110.9	50.0	150.0
M2PFTeDA		119.6	12.0	218.0
M3PFBS		108.7	50.0	150.0
M3PFHxS		111.3	50.0	150.0
M4PFHpA		112.7	50.0	150.0
M5PFHxA		113.5	50.0	150.0
M5PFPeA		109.5	50.0	150.0
M6PFDA		101.8	50.0	150.0
M7PFUnDA		123.0	50.0	150.0
M8FOSA		120.6	50.0	150.0
M8PFOA		107.1	50.0	150.0
M8PFOS		113.8	50.0	150.0
M9-PFNA		94.3	50.0	150.0
MPFBA		110.6	50.0	150.0
MPFDoDA		110.4	50.0	150.0
d3N-MeFOSAA		102.5	50.0	150.0
d5EtFOSAA		107.0	50.0	150.0
MHFPO-DA		109.6	50.0	150.0
d-N-EtFOSA-M		110.0	50.0	150.0
d-N-MeFOSA-M		118.1	50.0	150.0
d7-N-MeFOSE-M		108.3	50.0	150.0
d9-N-EtFOSE-M		117.8	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53396.05

Sample Tag: MW-103S-230914

Collected Date/Time: 09/14/2023 12:55

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK230918, Run Date: 09/18/2023 19:25, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		127.1	50.0	150.0
M2-6:2FTSA		115.1	50.0	150.0
M2-8:2FTSA		111.2	50.0	150.0
M2PFTeDA		123.8	12.0	218.0
M3PFBS		116.1	50.0	150.0
M3PFHxS		111.7	50.0	150.0
M4PFHpA		109.0	50.0	150.0
M5PFHxA		106.6	50.0	150.0
M5PFPeA		110.9	50.0	150.0
M6PFDA		110.5	50.0	150.0
M7PFUnDA		116.2	50.0	150.0
M8FOSA		111.2	50.0	150.0
M8PFOA		108.9	50.0	150.0
M8PFOS		108.6	50.0	150.0
M9-PFNA		103.0	50.0	150.0
MPFBA		105.1	50.0	150.0
MPFDoDA		119.2	50.0	150.0
d3N-MeFOSAA		99.7	50.0	150.0
d5EtFOSAA		107.6	50.0	150.0
MHFPO-DA		103.5	50.0	150.0
d-N-EtFOSA-M		100.7	50.0	150.0
d-N-MeFOSA-M		105.1	50.0	150.0
d7-N-MeFOSE-M		102.6	50.0	150.0
d9-N-EtFOSE-M		108.0	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53396.08

Sample Tag: MW-108S-230914

Collected Date/Time: 09/14/2023 13:55

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK230918, Run Date: 09/18/2023 20:23, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		127.5	50.0	150.0
M2-6:2FTSA		123.5	50.0	150.0
M2-8:2FTSA		110.5	50.0	150.0
M2PFTeDA		109.8	12.0	218.0
M3PFBS		104.9	50.0	150.0
M3PFHxS		114.3	50.0	150.0
M4PFHpA		117.4	50.0	150.0
M5PFHxA		103.3	50.0	150.0
M5PFPeA		114.0	50.0	150.0
M6PFDA		98.6	50.0	150.0
M7PFUnDA		116.1	50.0	150.0
M8FOSA		111.3	50.0	150.0
M8PFOA		110.9	50.0	150.0
M8PFOS		108.4	50.0	150.0
M9-PFNA		116.6	50.0	150.0
MPFBA		106.6	50.0	150.0
MPFDoDA		115.0	50.0	150.0
d3N-MeFOSAA		100.0	50.0	150.0
d5EtFOSAA		103.4	50.0	150.0
MHFPO-DA		112.5	50.0	150.0
d-N-EtFOSA-M		102.5	50.0	150.0
d-N-MeFOSA-M		112.7	50.0	150.0
d7-N-MeFOSE-M		106.7	50.0	150.0
d9-N-EtFOSE-M		97.5	50.0	150.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: PF230918W1

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

Blank (BLK)

Lab Sample ID: AK230918.BLK230918

Run in Batch: AK230918, Run Date: 09/18/2023 13:53, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		105.5	50.0	150.0
M2-6:2FTSA		99.4	50.0	150.0
M2-8:2FTSA		101.5	50.0	150.0
M2PFTeDA		111.5	12.0	218.0
M3PFBS		106.9	50.0	150.0
M3PFHxS		101.6	50.0	150.0
M4PFHpA		97.3	50.0	150.0
M5PFHxA		93.7	50.0	150.0
M5PFPeA		107.2	50.0	150.0
M6PFDA		94.7	50.0	150.0
M7PFUnDA		120.4	50.0	150.0
M8FOSA		109.7	50.0	150.0
M8PFOA		108.9	50.0	150.0
M8PFOS		104.3	50.0	150.0
M9-PFNA		96.7	50.0	150.0
MPFBA		102.5	50.0	150.0
MPFDoDA		102.4	50.0	150.0
d3N-MeFOSAA		96.3	50.0	150.0
d5EtFOSAA		95.8	50.0	150.0
MHFPO-DA		109.8	50.0	150.0
d-N-EtFOSA-M		92.4	50.0	150.0
d-N-MeFOSA-M		100.8	50.0	150.0
d7-N-MeFOSE-M		107.6	50.0	150.0
d9-N-EtFOSE-M		105.4	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample (LCS)

Lab Sample ID: AK230918.LCS230918

Run in Batch: AK230918, Run Date: 09/18/2023 13:14, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		109.0	50.0	150.0
M2-6:2FTSA		100.1	50.0	150.0
M2-8:2FTSA		107.8	50.0	150.0
M2PFTeDA		120.2	12.0	218.0
M3PFBS		104.4	50.0	150.0
M3PFHxS		106.1	50.0	150.0
M4PFHpA		104.8	50.0	150.0
M5PFHxA		100.9	50.0	150.0
M5PFPeA		102.2	50.0	150.0
M6PFDA		92.1	50.0	150.0
M7PFUnDA		119.9	50.0	150.0
M8FOSA		102.7	50.0	150.0
M8PFOA		96.4	50.0	150.0
M8PFOS		97.2	50.0	150.0
M9-PFNA		103.6	50.0	150.0
MPFBA		101.1	50.0	150.0
MPFDoDA		110.4	50.0	150.0
d3N-MeFOSAA		110.3	50.0	150.0
d5EtFOSAA		109.4	50.0	150.0
MHFPO-DA		101.2	50.0	150.0
d-N-EtFOSA-M		103.3	50.0	150.0
d-N-MeFOSA-M		97.7	50.0	150.0
d7-N-MeFOSE-M		103.4	50.0	150.0
d9-N-EtFOSE-M		109.7	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230918.LCSD230918, Parent Sample ID: AK230918.LCS230918

Run in Batch: AK230918, Run Date: 09/18/2023 13:34, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		100.5	50.0	150.0
M2-6:2FTSA		99.0	50.0	150.0
M2-8:2FTSA		102.0	50.0	150.0
M2PFTeDA		104.7	12.0	218.0
M3PFBS		104.8	50.0	150.0
M3PFHxS		98.4	50.0	150.0
M4PFHpA		104.8	50.0	150.0
M5PFHxA		94.2	50.0	150.0
M5PFPeA		103.0	50.0	150.0
M6PFDA		88.6	50.0	150.0
M7PFUnDA		112.3	50.0	150.0
M8FOSA		100.7	50.0	150.0
M8PFOA		101.7	50.0	150.0
M8PFOS		109.0	50.0	150.0
M9-PFNA		95.6	50.0	150.0
MPFBA		100.4	50.0	150.0
MPFDoDA		109.7	50.0	150.0
d3N-MeFOSAA		99.3	50.0	150.0
d5EtFOSAA		96.1	50.0	150.0
MHFPO-DA		95.3	50.0	150.0
d-N-EtFOSA-M		97.3	50.0	150.0
d-N-MeFOSA-M		100.1	50.0	150.0
d7-N-MeFOSE-M		103.7	50.0	150.0
d9-N-EtFOSE-M		97.4	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: AK230918.5339606M, Parent Sample ID: S53396.05

Run in Batch: AK230918, Run Date: 09/18/2023 19:44, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		140.2	50.0	150.0
M2-6:2FTSA		112.6	50.0	150.0
M2-8:2FTSA		104.9	50.0	150.0
M2PFTeDA		130.4	12.0	218.0
M3PFBS		104.9	50.0	150.0
M3PFHxS		115.2	50.0	150.0
M4PFHpA		108.3	50.0	150.0
M5PFHxA		103.4	50.0	150.0
M5PFPeA		111.0	50.0	150.0
M6PFDA		100.4	50.0	150.0
M7PFUnDA		123.0	50.0	150.0
M8FOSA		115.8	50.0	150.0
M8PFOA		107.2	50.0	150.0
M8PFOS		107.0	50.0	150.0
M9-PFNA		110.6	50.0	150.0
MPFBA		108.0	50.0	150.0
MPFDoDA		114.5	50.0	150.0
d3N-MeFOSAA		107.2	50.0	150.0
d5EtFOSAA		116.8	50.0	150.0
MHFPO-DA		127.5	50.0	150.0
d-N-EtFOSA-M		102.1	50.0	150.0
d-N-MeFOSA-M		110.3	50.0	150.0
d7-N-MeFOSE-M		104.4	50.0	150.0
d9-N-EtFOSE-M		106.5	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike Duplicate (MSD)

Lab Sample ID: AK230918.5339607N, Parent Sample ID: AK230918.5339606M

Run in Batch: AK230918, Run Date: 09/18/2023 20:04, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1.95

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		111.7	50.0	150.0
M2-6:2FTSA		107.8	50.0	150.0
M2-8:2FTSA		103.2	50.0	150.0
M2PFTeDA		109.9	12.0	218.0
M3PFBS		107.4	50.0	150.0
M3PFHxS		118.8	50.0	150.0
M4PFHpA		108.8	50.0	150.0
M5PFHxA		96.6	50.0	150.0
M5PFPeA		109.7	50.0	150.0
M6PFDA		92.2	50.0	150.0
M7PFUnDA		126.7	50.0	150.0
M8FOSA		101.7	50.0	150.0
M8PFOA		105.9	50.0	150.0
M8PFOS		104.5	50.0	150.0
M9-PFNA		111.4	50.0	150.0
MPFBA		106.1	50.0	150.0
MPFDoDA		102.0	50.0	150.0
d3N-MeFOSAA		106.1	50.0	150.0
d5EtFOSAA		105.9	50.0	150.0
MHFPO-DA		105.7	50.0	150.0
d-N-EtFOSA-M		97.4	50.0	150.0
d-N-MeFOSA-M		106.3	50.0	150.0
d7-N-MeFOSE-M		100.3	50.0	150.0
d9-N-EtFOSE-M		103.2	50.0	150.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230918W1

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

Blank (BLK)

Lab Sample ID: AK230918.BLK230918

Run in Batch: AK230918, Run Date: 09/18/2023 13:53, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFMPA		ND	2	ng/l
FPrPA (3:3 FTCA)		ND	4	ng/l
PFPPrS		ND	2	ng/l
PFPeA		ND	4	ng/l
PFMBA		ND	2	ng/l
4:2 FTSA		ND	2	ng/l
NFDHA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
HFPO-DA		ND	10	ng/l
FPePA (5:3 FTCA)		ND	4	ng/l
PFEESA		ND	2	ng/l
PFFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
ADONA		ND	2	ng/l
PFBSA		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
FHpPA (7:3 FTCA)		ND	4	ng/l
PFNA		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFECHS		ND	2	ng/l
PFFHpS		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
PFDA		ND	2	ng/l
PFOS-BR		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS		ND	2	ng/l
PFHxSA		ND	2	ng/l
PFOS-LN		ND	2	ng/l
PFUnDA		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTTrDA		ND	2	ng/l
FOSA		ND	2	ng/l
11CL-PF3OUdS		ND	2	ng/l
PFTeDA		ND	4	ng/l
PFDOS		ND	6	ng/l
NMeFOSE		ND	4	ng/l
NMeFOSAM		ND	2	ng/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230918W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: AK230918.BLK230918

Run in Batch: AK230918, Run Date: 09/18/2023 13:53, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
NEtFOSE		ND	4	ng/l
NEtFOSAM		ND	2	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: AK230918.LCS230918

Run in Batch: AK230918, Run Date: 09/18/2023 13:14, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		95.0	70.0	130.0
PFMPA		119.0	70.0	130.0
FPrPA (3:3 FTCA)		98.6	70.0	130.0
PFPPrS		107.8	70.0	130.0
PFPeA		95.2	70.0	130.0
PFMBA		111.4	70.0	130.0
4:2 FTSA		91.0	70.0	130.0
NFDHA		98.8	70.0	130.0
PFHxA		100.2	70.0	130.0
PFBS		101.8	70.0	130.0
HFPO-DA		102.0	70.0	130.0
FPePA (5:3 FTCA)		96.0	70.0	130.0
PFEESA		113.0	70.0	130.0
PFHpA		101.8	70.0	130.0
PFPeS		105.0	70.0	130.0
ADONA		101.4	70.0	130.0
PFBSA		96.6	70.0	130.0
6:2 FTSA		109.8	70.0	130.0
PFOA		100.8	70.0	130.0
PFHxS		107.2	70.0	130.0
FHpPA (7:3 FTCA)		103.2	70.0	130.0
PFNA		103.6	70.0	130.0
8:2 FTSA		106.8	70.0	130.0
PFECHS		128.6	70.0	130.0
PFHpS		88.0	70.0	130.0
N-MeFOSAA		77.2	70.0	130.0
PFDA		102.6	70.0	130.0
EtFOSAA		80.0	70.0	130.0
PFOS		102.8	70.0	130.0
PFHxSA		99.2	70.0	130.0
PFUnDA		96.6	70.0	130.0
9CL-PF3ONS		108.8	70.0	130.0
PFNS		106.4	70.0	130.0
PFDoDA		96.8	70.0	130.0
PFDS		126.0	70.0	130.0
PFTTrDA		122.2	70.0	130.0
FOSA		94.8	70.0	130.0
11CL-PF3OUdS		106.6	70.0	130.0
PFTeDA		104.0	70.0	130.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230918W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: AK230918.LCS230918

Run in Batch: AK230918, Run Date: 09/18/2023 13:14, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFDOS	*	135.6	70.0	130.0
NMeFOSE		107.2	70.0	130.0
NMeFOSAM		111.4	70.0	130.0
NEtFOSE		96.6	70.0	130.0
NEtFOSAM		100.6	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230918.LCSD230918, Parent Sample ID: AK230918.LCS230918

Run in Batch: AK230918, Run Date: 09/18/2023 13:34, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		100.2	70.0	130.0	5.3	30.0
PFMPA		108.8	70.0	130.0	9.0	30.0
FPrPA (3:3 FTCA)		100.2	70.0	130.0	1.6	30.0
PFPPrS		104.6	70.0	130.0	3.0	30.0
PFPeA		98.6	70.0	130.0	3.5	30.0
PFMBA		105.4	70.0	130.0	5.5	30.0
4:2 FTSA		102.8	70.0	130.0	12.2	30.0
NFDHA		95.6	70.0	130.0	3.3	30.0
PFHxA		116.0	70.0	130.0	14.6	30.0
PFBS		109.0	70.0	130.0	6.8	30.0
HFPO-DA		105.4	70.0	130.0	3.3	30.0
PFPePA (5:3 FTCA)		115.0	70.0	130.0	18.0	30.0
PFEESA		109.6	70.0	130.0	3.1	30.0
PFHpA		100.6	70.0	130.0	1.2	30.0
PFPeS		95.6	70.0	130.0	9.4	30.0
ADONA		96.8	70.0	130.0	4.6	30.0
PFBSA		92.8	70.0	130.0	4.0	30.0
6:2 FTSA		108.8	70.0	130.0	0.9	30.0
PFOA		93.0	70.0	130.0	8.0	30.0
PFHxS		116.8	70.0	130.0	8.6	30.0
FHpPA (7:3 FTCA)		97.4	70.0	130.0	5.8	30.0
PFNA		110.0	70.0	130.0	6.0	30.0
8:2 FTSA		103.4	70.0	130.0	3.2	30.0
PFECHS		116.0	70.0	130.0	10.3	30.0
PFHpS		105.4	70.0	130.0	18.0	30.0
N-MeFOSAA		88.2	70.0	130.0	13.3	30.0
PFDA		94.8	70.0	130.0	7.9	30.0
EtFOSAA		95.0	70.0	130.0	17.1	30.0
PFOS		97.6	70.0	130.0	5.2	30.0
PFHxSA		105.0	70.0	130.0	5.7	30.0
PFUnDA		100.4	70.0	130.0	3.9	30.0
9CL-PF3ONS		104.0	70.0	130.0	4.5	30.0
PFNS		105.2	70.0	130.0	1.1	30.0
PFDODA		91.4	70.0	130.0	5.7	30.0
PFDS		106.2	70.0	130.0	17.1	30.0
PFTTrDA		114.2	70.0	130.0	6.8	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230918W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK230918.LCSD230918, Parent Sample ID: AK230918.LCS230918

Run in Batch: AK230918, Run Date: 09/18/2023 13:34, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
FOSA		89.0	70.0	130.0	6.3	30.0
11CL-PF3OUdS		94.8	70.0	130.0	11.7	30.0
PFTeDA		97.8	70.0	130.0	6.1	30.0
PFDOS		110.6	70.0	130.0	20.3	30.0
NMeFOSE		97.6	70.0	130.0	9.4	30.0
NMeFOSAM		114.8	70.0	130.0	3.0	30.0
NEtFOSE		105.0	70.0	130.0	8.3	30.0
NEtFOSAM		107.0	70.0	130.0	6.2	30.0

Matrix Spike (MS)

Lab Sample ID: AK230918.5339606M, Parent Sample ID: S53396.05

Run in Batch: AK230918, Run Date: 09/18/2023 19:44, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1.97

Analyte	Flags	% Rec	LCL	UCL
PFBA		111.7	70.0	130.0
PFPeA		95.4	70.0	130.0
4:2 FTSA		90.4	70.0	130.0
PFHxA		121.8	70.0	130.0
PFBS		111.7	70.0	130.0
PFHpA		99.6	70.0	130.0
PFPeS		111.7	70.0	130.0
6:2 FTSA		111.7	70.0	130.0
PFOA		96.8	70.0	130.0
PFHxS		98.6	70.0	130.0
PFNA		111.7	70.0	130.0
8:2 FTSA		111.7	70.0	130.0
PFHpS		90.4	70.0	130.0
PFDA		91.4	70.0	130.0
N-MeFOSAA		92.4	70.0	130.0
EtFOSAA		89.3	70.0	130.0
PFOS		103.6	70.0	130.0
PFUnDA		101.5	70.0	130.0
PFNS		101.5	70.0	130.0
PFDoDA		111.7	70.0	130.0
PFDS		121.8	70.0	130.0
PFTTrDA	*	132.0	70.0	130.0
FOSA		89.3	70.0	130.0
PFTeDA		98.5	70.0	130.0
11CL-PF3OUdS		101.5	70.0	130.0
9CL-PF3ONS		111.7	70.0	130.0
ADONA		100.5	70.0	130.0
HFPO-DA		75.1	70.0	130.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230918W1 (continued)

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

Matrix Spike Duplicate (MSD)

Lab Sample ID: AK230918.5339607N, Parent Sample ID: AK230918.5339606M

Run in Batch: AK230918, Run Date: 09/18/2023 20:04, Prep Date: 09/18/2023, Matrix: WW, Dilution: 1.95

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		99.5	70.0	130.0	12.6	30.0
PFPeA		95.4	70.0	130.0	1.1	30.0
4:2 FTSA		100.5	70.0	130.0	9.6	30.0
PFHxA		112.8	70.0	130.0	8.7	30.0
PFBS		112.8	70.0	130.0	0.0	30.0
PFFHpA		94.5	70.0	130.0	6.2	30.0
PFPeS		94.4	70.0	130.0	17.8	30.0
6:2 FTSA		98.5	70.0	130.0	13.6	30.0
PFOA		94.7	70.0	130.0	3.1	30.0
PFHxS		98.6	70.0	130.0	1.0	30.0
PFNA		98.5	70.0	130.0	13.6	30.0
8:2 FTSA		112.8	70.0	130.0	0.0	30.0
PFFHpS		91.3	70.0	130.0	0.0	30.0
PFDA		102.6	70.0	130.0	10.5	30.0
N-MeFOSAA		92.3	70.0	130.0	1.1	30.0
EtFOSAA		96.4	70.0	130.0	6.6	30.0
PFOS	*	53.3	70.0	130.0	37.0	30.0
PFUnDA		90.3	70.0	130.0	12.8	30.0
PFNS		112.8	70.0	130.0	9.5	30.0
PFDoDA		112.8	70.0	130.0	0.0	30.0
PFDS		112.8	70.0	130.0	8.7	30.0
PFTTrDA	*	133.3	70.0	130.0	0.0	30.0
FOSA		97.4	70.0	130.0	7.7	30.0
PFTeDA		102.6	70.0	130.0	3.0	30.0
11CL-PF3OUdS		101.5	70.0	130.0	1.0	30.0
9CL-PF3ONS		112.8	70.0	130.0	0.0	30.0
ADONA		96.4	70.0	130.0	5.2	30.0
HFPO-DA		90.3	70.0	130.0	17.3	30.0



Quality Control Report

Report ID: QC-S53416-01
Generated on 09/27/2023

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): S53416.01-S53416.05
Project: RACER Flint West #12990
Submitted Date/Time: 09/15/2023 10:00
Sampled by: Unknown
P.O. #: 795930

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-6)
Prep Batch Summary (Pages 7-8)
Surrogates per Lab Sample (Pages 9-13)
Surrogates per QC Sample (Pages 14-17)
Batch QC Results (Pages 18-41)

Report Flag Descriptions

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

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

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S53416.01

Sample Tag: MW-114S-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/15/23 11:20	CHR230915-W1	CHR230915-W1	No	BLK/LCS/MS/DUP
Chromium VI	SM3500-Cr B	09/15/23 11:20	CHR230915-W1	CHR230915-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 11:23	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 11:23	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 11:23	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 11:23	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 11:23	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 11:23	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/20/23 20:08	230920A7	VF230920W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53416.02

Sample Tag: DUP-1-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/15/23 11:30	CHR230915-W1	CHR230915-W1	No	BLK/LCS/MS/DUP
Chromium VI	SM3500-Cr B	09/15/23 11:30	CHR230915-W1	CHR230915-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 11:29	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 11:29	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 11:29	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 11:29	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 11:29	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 11:29	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 17:54	230919A9	VF230919W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List (Replicate 01)	SW5030C/8260C	09/20/23 20:32	230920A7	VF230920W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53416.03

Sample Tag: MW-110S

Collected Date/Time: 09/14/2023 16:30

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/15/23 11:40	CHR230915-W1	CHR230915-W1	No	BLK/LCS/MS/DUP
Chromium VI	SM3500-Cr B	09/15/23 11:40	CHR230915-W1	CHR230915-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 11:34	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 11:34	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 11:34	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 11:34	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 11:34	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 11:34	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/22/23 16:00	230922A7	VF230922W2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53416.04

Sample Tag: EB-1

Collected Date/Time: 09/14/2023 16:55

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI, Dissolved	SM3500-Cr B	09/15/23 11:45	CHR230915-W1	CHR230915-W1	No	BLK/LCS/MS/DUP
Chromium VI	SM3500-Cr B	09/15/23 11:45	CHR230915-W1	CHR230915-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	09/26/23 10:44	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Chromium	E200.8	09/26/23 10:44	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Copper	E200.8	09/26/23 10:44	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Lead	E200.8	09/26/23 10:44	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	09/26/23 10:44	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	09/26/23 10:44	MT4-23-0926A	MTD-092623-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 17:35	230919A9	VF230919W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53416.05

Sample Tag: Trip Blank

Collected Date/Time: 09/14/2023 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	09/19/23 16:56	230919A9	VF230919W1	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: CHR230915-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53416.01	Chromium VI, Dissolved	SM3500-Cr B	09/15/23 11:20	CHR230915-W1
S53416.01	Chromium VI	SM3500-Cr B	09/15/23 11:20	CHR230915-W1
S53416.02	Chromium VI, Dissolved	SM3500-Cr B	09/15/23 11:30	CHR230915-W1
S53416.02	Chromium VI	SM3500-Cr B	09/15/23 11:30	CHR230915-W1
S53416.03	Chromium VI, Dissolved	SM3500-Cr B	09/15/23 11:40	CHR230915-W1
S53416.03	Chromium VI	SM3500-Cr B	09/15/23 11:40	CHR230915-W1
S53416.04	Chromium VI, Dissolved	SM3500-Cr B	09/15/23 11:45	CHR230915-W1
S53416.04	Chromium VI	SM3500-Cr B	09/15/23 11:45	CHR230915-W1

Metals, Prep Batch ID: MTD-092623-1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53416.01	Arsenic, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A
S53416.01	Arsenic	E200.8	09/26/23 11:23	MT4-23-0926A
S53416.01	Chromium, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A
S53416.01	Chromium	E200.8	09/26/23 11:23	MT4-23-0926A
S53416.01	Copper, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A
S53416.01	Copper	E200.8	09/26/23 11:23	MT4-23-0926A
S53416.01	Lead, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A
S53416.01	Lead	E200.8	09/26/23 11:23	MT4-23-0926A
S53416.01	Selenium, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A
S53416.01	Selenium	E200.8	09/26/23 11:23	MT4-23-0926A
S53416.01	Zinc, Dissolved	E200.8	09/26/23 11:25	MT4-23-0926A
S53416.01	Zinc	E200.8	09/26/23 11:23	MT4-23-0926A
S53416.02	Arsenic, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A
S53416.02	Arsenic	E200.8	09/26/23 11:29	MT4-23-0926A
S53416.02	Chromium, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A
S53416.02	Chromium	E200.8	09/26/23 11:29	MT4-23-0926A
S53416.02	Copper, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A
S53416.02	Copper	E200.8	09/26/23 11:29	MT4-23-0926A
S53416.02	Lead, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A
S53416.02	Lead	E200.8	09/26/23 11:29	MT4-23-0926A
S53416.02	Selenium, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A
S53416.02	Selenium	E200.8	09/26/23 11:29	MT4-23-0926A
S53416.02	Zinc, Dissolved	E200.8	09/26/23 11:32	MT4-23-0926A
S53416.02	Zinc	E200.8	09/26/23 11:29	MT4-23-0926A
S53416.03	Arsenic, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A
S53416.03	Arsenic	E200.8	09/26/23 11:34	MT4-23-0926A
S53416.03	Chromium, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A
S53416.03	Chromium	E200.8	09/26/23 11:34	MT4-23-0926A
S53416.03	Copper, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A
S53416.03	Copper	E200.8	09/26/23 11:34	MT4-23-0926A
S53416.03	Lead, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A
S53416.03	Lead	E200.8	09/26/23 11:34	MT4-23-0926A
S53416.03	Selenium, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A
S53416.03	Selenium	E200.8	09/26/23 11:34	MT4-23-0926A
S53416.03	Zinc, Dissolved	E200.8	09/26/23 11:36	MT4-23-0926A
S53416.03	Zinc	E200.8	09/26/23 11:34	MT4-23-0926A
S53416.04	Arsenic, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A
S53416.04	Arsenic	E200.8	09/26/23 10:44	MT4-23-0926A

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-092623-1 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53416.04	Chromium, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A
S53416.04	Chromium	E200.8	09/26/23 10:44	MT4-23-0926A
S53416.04	Copper, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A
S53416.04	Copper	E200.8	09/26/23 10:44	MT4-23-0926A
S53416.04	Lead, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A
S53416.04	Lead	E200.8	09/26/23 10:44	MT4-23-0926A
S53416.04	Selenium, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A
S53416.04	Selenium	E200.8	09/26/23 10:44	MT4-23-0926A
S53416.04	Zinc, Dissolved	E200.8	09/26/23 10:47	MT4-23-0926A
S53416.04	Zinc	E200.8	09/26/23 10:44	MT4-23-0926A

Organics - Volatiles, Prep Batch ID: VF230919W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53416.02	Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 17:54	230919A9
S53416.04	Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 17:35	230919A9
S53416.05	Volatile Organics - DEQ List	SW5030C/8260C	09/19/23 16:56	230919A9

Organics - Volatiles, Prep Batch ID: VF230920W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53416.01	Volatile Organics - DEQ List	SW5030C/8260C	09/20/23 20:08	230920A7
S53416.02	Volatile Organics - DEQ List (Replicate 01)	SW5030C/8260C	09/20/23 20:32	230920A7

Organics - Volatiles, Prep Batch ID: VF230922W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53416.03	Volatile Organics - DEQ List	SW5030C/8260C	09/22/23 16:00	230922A7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53416.01

Sample Tag: MW-114S-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230920A7, Run Date: 09/20/2023 20:08, Matrix: WW, Dilution: 5

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.9	80.0	124.0
1,2-Dichloroethane-D4		105.1	72.0	125.0
Toluene-D8		101.2	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53416.02

Sample Tag: DUP-1-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230919A9, Run Date: 09/19/2023 17:54, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.9	80.0	124.0
1,2-Dichloroethane-D4		102.5	72.0	125.0
Toluene-D8		99.2	89.0	112.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List (Replicate 01)

Run in Batch: 230920A7, Run Date: 09/20/2023 20:32, Matrix: WW, Dilution: 10

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.5	80.0	124.0
1,2-Dichloroethane-D4		103.1	72.0	125.0
Toluene-D8		99.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53416.03

Sample Tag: MW-110S

Collected Date/Time: 09/14/2023 16:30

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230922A7, Run Date: 09/22/2023 16:00, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.3	80.0	124.0
1,2-Dichloroethane-D4		99.9	72.0	125.0
Toluene-D8		99.9	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53416.04

Sample Tag: EB-1

Collected Date/Time: 09/14/2023 16:55

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230919A9, Run Date: 09/19/2023 17:35, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.8	80.0	124.0
1,2-Dichloroethane-D4		98.9	72.0	125.0
Toluene-D8		98.2	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53416.05

Sample Tag: Trip Blank

Collected Date/Time: 09/14/2023 00:01

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230919A9, Run Date: 09/19/2023 16:56, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.9	80.0	124.0
1,2-Dichloroethane-D4		95.5	72.0	125.0
Toluene-D8		99.6	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230919W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230919A9.BLKW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 15:18, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.4	80.0	124.0
1,2-Dichloroethane-D4		100.8	72.0	125.0
Toluene-D8		99.3	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:00, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.7	80.0	124.0
1,2-Dichloroethane-D4		101.7	72.0	125.0
Toluene-D8		100.4	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230919A9.LCSDW19A, Parent Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:19, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.3	80.0	124.0
1,2-Dichloroethane-D4		104.7	72.0	125.0
Toluene-D8		101.1	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230920W2

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

Blank (BLK)

Lab Sample ID: 230920A7.BLKW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 14:26, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.8	80.0	124.0
1,2-Dichloroethane-D4		93.6	72.0	125.0
Toluene-D8		100.1	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 12:52, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.5	80.0	124.0
1,2-Dichloroethane-D4		91.0	72.0	125.0
Toluene-D8		99.2	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230920A7.LCSDW20A, Parent Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 13:16, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.8	80.0	124.0
1,2-Dichloroethane-D4		92.7	72.0	125.0
Toluene-D8		99.8	89.0	112.0

Matrix Spike (MS)

Lab Sample ID: 230920A7.5339206M, Parent Sample ID: S53392.05

Run in Batch: 230920A7, Run Date: 09/20/2023 21:42, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		104.8	80.0	124.0
1,2-Dichloroethane-D4		97.6	72.0	125.0
Toluene-D8		101.1	89.0	112.0

Matrix Spike (MS)

Lab Sample ID: 230920A7.5340402M, Parent Sample ID: S53404.01

Run in Batch: 230920A7, Run Date: 09/20/2023 22:29, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.2	80.0	124.0
1,2-Dichloroethane-D4		91.5	72.0	125.0
Toluene-D8		99.9	89.0	112.0

QC Report - Surrogates per QC Sample

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230920A7.5339207N, Parent Sample ID: 230920A7.5339206M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:05, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.9	80.0	124.0
1,2-Dichloroethane-D4		99.7	72.0	125.0
Toluene-D8		101.2	89.0	112.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230920A7.5340403N, Parent Sample ID: 230920A7.5340402M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:53, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.7	80.0	124.0
1,2-Dichloroethane-D4		89.5	72.0	125.0
Toluene-D8		99.7	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230922W2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230922A7.BLKW22A

Run in Batch: 230922A7, Run Date: 09/22/2023 14:26, Prep Date: 09/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.3	80.0	124.0
1,2-Dichloroethane-D4		97.4	72.0	125.0
Toluene-D8		100.3	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230922A7.LCSW22A

Run in Batch: 230922A7, Run Date: 09/22/2023 12:51, Prep Date: 09/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.2	80.0	124.0
1,2-Dichloroethane-D4		89.5	72.0	125.0
Toluene-D8		99.4	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230922A7.LCSDW22A, Parent Sample ID: 230922A7.LCSW22A

Run in Batch: 230922A7, Run Date: 09/22/2023 13:15, Prep Date: 09/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		106.8	80.0	124.0
1,2-Dichloroethane-D4		97.8	72.0	125.0
Toluene-D8		101.1	89.0	112.0

QC Report - Batch QC Results

Inorganics, Prep Batch ID: CHR230915-W1

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

Blank (BLK)

Lab Sample ID: CHR230915-W1.LRB1

Run in Batch: CHR230915-W1, Run Date: 09/15/2023 11:00, Prep Date: 09/15/2023, Matrix: Liquid, Dilution: 1

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

Laboratory Control Sample (LCS)

Lab Sample ID: CHR230915-W1.LCS1

Run in Batch: CHR230915-W1, Run Date: 09/15/2023 11:15, Prep Date: 09/15/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium VI		108	90	110

Matrix Spike (MS)

Lab Sample ID: CHR230915-W1.MS1, Parent Sample ID: S53416.02

Run in Batch: CHR230915-W1, Run Date: 09/15/2023 11:35, Prep Date: 09/15/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium VI	*	78	80	120

Duplicate (DUP)

Lab Sample ID: CHR230915-W1.DP1, Parent Sample ID: S53416.01

Run in Batch: CHR230915-W1, Run Date: 09/15/2023 11:25, Prep Date: 09/15/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Chromium VI		<1	15

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-092623-1

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

Blank (BLK)

Lab Sample ID: MT4-23-0926A.019.LRB

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 10:37, Prep Date: 09/26/2023, 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: MT4-23-0926A.018.LCS

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 10:34, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		100	85	115
Chromium		103	85	115
Copper		100	85	115
Lead		100	85	115
Selenium		101	85	115
Zinc		99	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-23-0926A.031.MS, Parent Sample ID: S53392.05

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 11:07, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		109	75	125
Chromium		108	75	125
Copper		99	75	125
Lead		94	75	125
Selenium		111	75	125
Zinc		110	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-23-0926A.046.MS, Parent Sample ID: S53392.05

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 11:40, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		100	75	125
Copper		97	75	125
Zinc		94	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-0926A.032.MSD, Parent Sample ID: MT4-23-0926A.031.MS

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 11:09, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		112	75	125	2	20
Chromium		105	75	125	3	20
Copper		97	75	125	2	20
Lead		97	75	125	4	20
Selenium		116	75	125	5	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-092623-1 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-23-0926A.032.MSD, Parent Sample ID: MT4-23-0926A.031.MS

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 11:09, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Zinc		108	75	125	2	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-0926A.047.MSD, Parent Sample ID: MT4-23-0926A.046.MS

Run in Batch: MT4-23-0926A, Run Date: 09/26/2023 11:42, Prep Date: 09/26/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		109	75	125	9	20
Copper		98	75	125	1	20
Zinc		108	75	125	14	20

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230919W1

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

Blank (BLK)

Lab Sample ID: 230919A9.BLKW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 15:18, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230919W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230919A9.BLKW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 15:18, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene	*	1.04	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:00, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		112.7	67.4	121.2
Acetone		88.4	29.9	161.5
Methyl iodide		113.2	68.8	116.4
Carbon disulfide		114.8	63.8	137.4
tert-Methyl butyl ether (MTBE)		109.1	73.2	122.4
Acrylonitrile		109.2	69.9	128.9
2-Butanone (MEK)		98.5	44.0	134.4
Dichlorodifluoromethane		110.8	10.0	222.8
Chloromethane		107.4	23.8	166.5
Vinyl chloride		108.7	43.5	149.1
Bromomethane		107.6	56.8	151.3
Chloroethane		108.8	53.4	149.4
Trichlorofluoromethane		107.5	59.7	151.8
1,1-Dichloroethene		113.0	69.6	139.4
Methylene chloride		110.3	73.3	121.1
trans-1,2-Dichloroethene		114.3	73.6	129.3
1,1-Dichloroethane		113.6	71.5	126.2
cis-1,2-Dichloroethene		111.9	76.6	122.1
Tetrahydrofuran		93.9	59.0	117.9
Chloroform		113.3	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230919W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:00, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		113.8	78.2	120.8
1,1,1-Trichloroethane		112.7	79.4	130.9
4-Methyl-2-pentanone (MIBK)		96.9	71.6	125.2
2-Hexanone		94.6	55.4	136.9
Carbon tetrachloride		113.5	72.6	133.0
Benzene		111.3	79.9	124.9
1,2-Dichloroethane		109.5	76.0	126.3
Trichloroethene		112.1	79.7	124.2
1,2-Dichloropropane		113.4	78.6	126.4
Bromodichloromethane		114.2	80.4	128.2
Dibromomethane		109.9	76.9	122.1
cis-1,3-Dichloropropene		114.7	79.8	129.9
Toluene		112.9	79.8	124.5
trans-1,3-Dichloropropene		114.9	74.0	131.3
1,1,2-Trichloroethane		112.7	78.7	123.1
Tetrachloroethene		111.9	74.5	124.5
trans-1,4-Dichloro-2-butene		106.4	68.6	135.4
Dibromochloromethane		108.9	74.6	127.2
1,2-Dibromoethane		108.7	70.3	133.7
Chlorobenzene		112.4	79.2	122.7
1,1,1,2-Tetrachloroethane		111.8	80.3	128.2
Ethylbenzene		112.2	79.5	129.1
p,m-Xylene		112.3	79.4	132.2
o-Xylene		113.0	80.2	131.0
Styrene		114.4	69.5	126.7
Isopropylbenzene		112.0	74.4	121.5
Bromoform		105.1	69.4	128.0
1,1,2,2-Tetrachloroethane		108.1	79.8	126.3
1,2,3-Trichloropropane		106.1	78.3	138.8
n-Propylbenzene		114.8	82.0	130.7
Bromobenzene		111.9	78.7	124.6
1,3,5-Trimethylbenzene		113.9	81.3	128.9
tert-Butylbenzene		112.7	80.7	128.9
1,2,4-Trimethylbenzene		113.3	81.4	130.8
sec-Butylbenzene		116.7	77.4	129.8
p-Isopropyltoluene		117.8	79.8	137.5
1,3-Dichlorobenzene		118.1	77.0	131.3
1,4-Dichlorobenzene		116.5	20.7	137.7
1,2-Dichlorobenzene		116.6	10.0	166.2
1,2,3-Trimethylbenzene		115.7	76.3	124.2
n-Butylbenzene		119.1	80.0	133.3
Hexachloroethane		115.4	23.8	138.1
1,2-Dibromo-3-chloropropane		101.5	21.2	189.4
1,2,4-Trichlorobenzene		119.7	27.4	143.4
1,2,3-Trichlorobenzene		118.7	75.4	131.4
Naphthalene		114.0	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230919W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:00, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		118.1	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230919A9.LCSDW19A, Parent Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:19, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		111.9	67.4	121.2	0.6	30.0
Acetone		95.7	29.9	161.5	8.0	30.0
Methyl iodide		105.7	68.8	116.4	6.9	30.0
Carbon disulfide		103.1	63.8	137.4	10.7	30.0
tert-Methyl butyl ether (MTBE)		108.8	73.2	122.4	0.3	30.0
Acrylonitrile		115.1	69.9	128.9	5.3	30.0
2-Butanone (MEK)		109.5	44.0	134.4	10.6	30.0
Dichlorodifluoromethane		98.0	10.0	222.8	12.3	30.0
Chloromethane		96.1	23.8	166.5	11.2	30.0
Vinyl chloride		95.8	43.5	149.1	12.6	30.0
Bromomethane		97.5	56.8	151.3	9.8	30.0
Chloroethane		97.3	53.4	149.4	11.2	30.0
Trichlorofluoromethane		98.0	59.7	151.8	9.3	30.0
1,1-Dichloroethene		103.3	69.6	139.4	9.0	30.0
Methylene chloride		104.0	73.3	121.1	5.9	30.0
trans-1,2-Dichloroethene		105.2	73.6	129.3	8.3	30.0
1,1-Dichloroethane		106.3	71.5	126.2	6.6	30.0
cis-1,2-Dichloroethene		107.4	76.6	122.1	4.1	30.0
Tetrahydrofuran		107.1	59.0	117.9	13.1	30.0
Chloroform		106.7	78.4	124.0	5.9	30.0
Bromochloromethane		107.7	78.2	120.8	5.5	30.0
1,1,1-Trichloroethane		104.6	79.4	130.9	7.5	30.0
4-Methyl-2-pentanone (MIBK)		105.8	71.6	125.2	8.8	30.0
2-Hexanone		106.8	55.4	136.9	12.2	30.0
Carbon tetrachloride		106.1	72.6	133.0	6.8	30.0
Benzene		106.7	79.9	124.9	4.3	30.0
1,2-Dichloroethane		106.4	76.0	126.3	2.9	30.0
Trichloroethene		105.2	79.7	124.2	6.3	30.0
1,2-Dichloropropane		110.3	78.6	126.4	2.8	30.0
Bromodichloromethane		109.9	80.4	128.2	3.8	30.0
Dibromomethane		108.5	76.9	122.1	1.2	30.0
cis-1,3-Dichloropropene		111.0	79.8	129.9	3.3	30.0
Toluene		107.1	79.8	124.5	5.3	30.0
trans-1,3-Dichloropropene		111.5	74.0	131.3	3.0	30.0
1,1,2-Trichloroethane		110.9	78.7	123.1	1.6	30.0
Tetrachloroethene		106.2	74.5	124.5	5.2	30.0
trans-1,4-Dichloro-2-butene		111.5	68.6	135.4	4.7	30.0
Dibromochloromethane		108.7	74.6	127.2	0.2	30.0
1,2-Dibromoethane		110.6	70.3	133.7	1.7	30.0
Chlorobenzene		108.1	79.2	122.7	3.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230919W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230919A9.LCSDW19A, Parent Sample ID: 230919A9.LCSW19A

Run in Batch: 230919A9, Run Date: 09/19/2023 14:19, Prep Date: 09/19/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		108.8	80.3	128.2	2.7	30.0
Ethylbenzene		107.8	79.5	129.1	4.0	30.0
p,m-Xylene		106.6	79.4	132.2	5.2	30.0
o-Xylene		108.9	80.2	131.0	3.8	30.0
Styrene		110.6	69.5	126.7	3.4	30.0
Isopropylbenzene		107.1	74.4	121.5	4.5	30.0
Bromoform		108.5	69.4	128.0	3.1	30.0
1,1,2,2-Tetrachloroethane		110.4	79.8	126.3	2.1	30.0
1,2,3-Trichloropropane		108.8	78.3	138.8	2.6	30.0
n-Propylbenzene		107.8	82.0	130.7	6.3	30.0
Bromobenzene		109.9	78.7	124.6	1.9	30.0
1,3,5-Trimethylbenzene		107.9	81.3	128.9	5.4	30.0
tert-Butylbenzene		109.3	80.7	128.9	3.0	30.0
1,2,4-Trimethylbenzene		108.7	81.4	130.8	4.2	30.0
sec-Butylbenzene		108.4	77.4	129.8	7.4	30.0
p-Isopropyltoluene		109.6	79.8	137.5	7.3	30.0
1,3-Dichlorobenzene		110.1	77.0	131.3	7.0	30.0
1,4-Dichlorobenzene		110.0	20.7	137.7	5.7	30.0
1,2-Dichlorobenzene		112.1	10.0	166.2	3.9	30.0
1,2,3-Trimethylbenzene		108.4	76.3	124.2	6.6	30.0
n-Butylbenzene		111.0	80.0	133.3	7.0	30.0
Hexachloroethane		106.8	23.8	138.1	7.7	30.0
1,2-Dibromo-3-chloropropane		110.0	21.2	189.4	8.1	30.0
1,2,4-Trichlorobenzene		114.4	27.4	143.4	4.6	30.0
1,2,3-Trichlorobenzene		114.9	75.4	131.4	3.2	30.0
Naphthalene		116.5	32.9	135.8	2.2	30.0
2-Methylnaphthalene		121.2	25.5	165.5	2.6	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2

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

Blank (BLK)

Lab Sample ID: 230920A7.BLKW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 14:26, Prep Date: 09/20/2023, 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

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230920A7.BLKW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 14:26, Prep Date: 09/20/2023, 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: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 12:52, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		102.8	29.9	161.5
Acrylonitrile		108.1	69.9	128.9
2-Butanone (MEK)		102.3	44.0	134.4
Benzene		99.3	79.9	124.9
n-Butylbenzene		104.0	80.0	133.3
Bromobenzene		100.4	78.7	124.6
Bromochloromethane		99.0	78.2	120.8
Bromodichloromethane		98.9	80.4	128.2
Bromoform		104.3	69.4	128.0
Bromomethane		97.4	56.8	151.3
sec-Butylbenzene		101.4	77.4	129.8
tert-Butylbenzene		99.3	80.7	128.9
Carbon disulfide		99.6	63.8	137.4
Carbon tetrachloride		102.3	72.6	133.0
Chlorobenzene		99.2	79.2	122.7
Chloroethane		96.1	53.4	149.4
Chloroform		97.1	78.4	124.0
Chloromethane		95.4	23.8	166.5
1,1-Dichloroethane		98.3	71.5	126.2
1,1-Dichloroethene		98.9	69.6	139.4

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 12:52, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2-Dibromo-3-chloropropane		113.7	21.2	189.4
1,2-Dibromoethane		102.1	70.3	133.7
1,2-Dichlorobenzene		98.5	10.0	166.2
1,2-Dichloroethane		92.3	76.0	126.3
1,2-Dichloropropane		100.9	78.6	126.4
1,3-Dichlorobenzene		99.6	77.0	131.3
1,4-Dichlorobenzene		100.1	20.7	137.7
cis-1,2-Dichloroethene		100.1	76.6	122.1
cis-1,3-Dichloropropene		102.4	79.8	129.9
Dibromochloromethane		103.2	74.6	127.2
Dibromomethane		102.8	76.9	122.1
Dichlorodifluoromethane		84.0	10.0	222.8
Diethyl ether		95.1	67.4	121.2
trans-1,2-Dichloroethene		98.9	73.6	129.3
trans-1,3-Dichloropropene		100.3	74.0	131.3
trans-1,4-Dichloro-2-butene		102.5	68.6	135.4
Ethylbenzene		98.9	79.5	129.1
2-Hexanone		104.6	55.4	136.9
Hexachloroethane		109.2	23.8	138.1
p-Isopropyltoluene		101.9	79.8	137.5
Isopropylbenzene		100.6	74.4	121.5
2-Methylnaphthalene		104.1	25.5	165.5
4-Methyl-2-pentanone (MIBK)		105.7	71.6	125.2
tert-Methyl butyl ether (MTBE)		98.7	73.2	122.4
Methyl iodide		101.8	68.8	116.4
Methylene chloride		96.7	73.3	121.1
Naphthalene		110.1	32.9	135.8
n-Propylbenzene		101.5	82.0	130.7
Styrene		100.4	69.5	126.7
1,1,1,2-Tetrachloroethane		101.1	80.3	128.2
1,1,1-Trichloroethane		101.1	79.4	130.9
1,1,2,2-Tetrachloroethane		102.4	79.8	126.3
1,1,2-Trichloroethane		101.0	78.7	123.1
1,2,3-Trichlorobenzene		108.3	75.4	131.4
1,2,3-Trichloropropane		103.6	78.3	138.8
1,2,3-Trimethylbenzene		97.7	76.3	124.2
1,2,4-Trichlorobenzene		106.6	27.4	143.4
1,2,4-Trimethylbenzene		100.7	81.4	130.8
1,3,5-Trimethylbenzene		102.2	81.3	128.9
Tetrachloroethene		103.5	74.5	124.5
Tetrahydrofuran		95.9	59.0	117.9
Toluene		98.7	79.8	124.5
Trichloroethene		100.5	79.7	124.2
Trichlorofluoromethane		96.9	59.7	151.8
Vinyl chloride		95.0	43.5	149.1
o-Xylene		97.5	80.2	131.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 12:52, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		99.3	79.4	132.2

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230920A7.LCSDW20A, Parent Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 13:16, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		98.9	29.9	161.5	3.9	30.0
Acrylonitrile		109.5	69.9	128.9	1.3	30.0
2-Butanone (MEK)		103.4	44.0	134.4	1.1	30.0
Benzene		99.0	79.9	124.9	0.3	30.0
n-Butylbenzene		101.8	80.0	133.3	2.1	30.0
Bromobenzene		102.4	78.7	124.6	2.0	30.0
Bromochloromethane		102.6	78.2	120.8	3.6	30.0
Bromodichloromethane		100.8	80.4	128.2	1.8	30.0
Bromoform		108.6	69.4	128.0	4.1	30.0
Bromomethane		101.0	56.8	151.3	3.6	30.0
sec-Butylbenzene		100.1	77.4	129.8	1.3	30.0
tert-Butylbenzene		99.4	80.7	128.9	0.1	30.0
Carbon disulfide		97.1	63.8	137.4	2.5	30.0
Carbon tetrachloride		101.7	72.6	133.0	0.6	30.0
Chlorobenzene		99.4	79.2	122.7	0.1	30.0
Chloroethane		94.8	53.4	149.4	1.4	30.0
Chloroform		97.1	78.4	124.0	0.0	30.0
Chloromethane		94.0	23.8	166.5	1.5	30.0
1,1-Dichloroethane		98.0	71.5	126.2	0.4	30.0
1,1-Dichloroethene		96.3	69.6	139.4	2.6	30.0
1,2-Dibromo-3-chloropropane		112.7	21.2	189.4	0.8	30.0
1,2-Dibromoethane		106.5	70.3	133.7	4.2	30.0
1,2-Dichlorobenzene		99.4	10.0	166.2	1.0	30.0
1,2-Dichloroethane		94.5	76.0	126.3	2.3	30.0
1,2-Dichloropropane		100.4	78.6	126.4	0.5	30.0
1,3-Dichlorobenzene		99.7	77.0	131.3	0.1	30.0
1,4-Dichlorobenzene		99.5	20.7	137.7	0.5	30.0
cis-1,2-Dichloroethene		99.2	76.6	122.1	0.9	30.0
cis-1,3-Dichloropropene		106.2	79.8	129.9	3.6	30.0
Dibromochloromethane		107.3	74.6	127.2	3.8	30.0
Dibromomethane		107.9	76.9	122.1	4.9	30.0
Dichlorodifluoromethane		82.9	10.0	222.8	1.4	30.0
Diethyl ether		98.8	67.4	121.2	3.8	30.0
trans-1,2-Dichloroethene		96.0	73.6	129.3	3.0	30.0
trans-1,3-Dichloropropene		102.8	74.0	131.3	2.4	30.0
trans-1,4-Dichloro-2-butene		101.8	68.6	135.4	0.7	30.0
Ethylbenzene		99.6	79.5	129.1	0.7	30.0
2-Hexanone		109.8	55.4	136.9	4.8	30.0
Hexachloroethane		108.9	23.8	138.1	0.3	30.0
p-Isopropyltoluene		99.9	79.8	137.5	1.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230920A7.LCSDW20A, Parent Sample ID: 230920A7.LCSW20A

Run in Batch: 230920A7, Run Date: 09/20/2023 13:16, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isopropylbenzene		99.9	74.4	121.5	0.6	30.0
2-Methylnaphthalene		102.5	25.5	165.5	1.6	30.0
4-Methyl-2-pentanone (MIBK)		105.6	71.6	125.2	0.1	30.0
tert-Methyl butyl ether (MTBE)		102.1	73.2	122.4	3.4	30.0
Methyl iodide		101.3	68.8	116.4	0.5	30.0
Methylene chloride		97.4	73.3	121.1	0.8	30.0
Naphthalene		109.0	32.9	135.8	1.0	30.0
n-Propylbenzene		102.2	82.0	130.7	0.7	30.0
Styrene		102.0	69.5	126.7	1.7	30.0
1,1,1,2-Tetrachloroethane		103.0	80.3	128.2	1.9	30.0
1,1,1-Trichloroethane		100.1	79.4	130.9	1.0	30.0
1,1,2,2-Tetrachloroethane		104.8	79.8	126.3	2.2	30.0
1,1,2-Trichloroethane		103.7	78.7	123.1	2.6	30.0
1,2,3-Trichlorobenzene		107.7	75.4	131.4	0.5	30.0
1,2,3-Trichloropropane		104.7	78.3	138.8	1.0	30.0
1,2,3-Trimethylbenzene		97.6	76.3	124.2	0.2	30.0
1,2,4-Trichlorobenzene		106.1	27.4	143.4	0.5	30.0
1,2,4-Trimethylbenzene		101.9	81.4	130.8	1.2	30.0
1,3,5-Trimethylbenzene		101.5	81.3	128.9	0.7	30.0
Tetrachloroethene		102.5	74.5	124.5	1.0	30.0
Tetrahydrofuran		100.7	59.0	117.9	4.8	30.0
Toluene		99.0	79.8	124.5	0.2	30.0
Trichloroethene		100.2	79.7	124.2	0.3	30.0
Trichlorofluoromethane		95.1	59.7	151.8	1.8	30.0
Vinyl chloride		92.6	43.5	149.1	2.6	30.0
o-Xylene		98.7	80.2	131.0	1.2	30.0
p,m-Xylene		100.1	79.4	132.2	0.8	30.0

Matrix Spike (MS)

Lab Sample ID: 230920A7.5339206M, Parent Sample ID: S53392.05

Run in Batch: 230920A7, Run Date: 09/20/2023 21:42, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		99.1	29.9	161.5
Acrylonitrile		106.7	69.9	128.9
2-Butanone (MEK)		99.1	44.0	134.4
Benzene		102.6	79.9	124.9
n-Butylbenzene		96.5	80.0	133.3
Bromobenzene		105.5	78.7	124.6
Bromochloromethane		109.8	78.2	120.8
Bromodichloromethane		106.3	80.4	128.2
Bromoform		102.2	69.4	128.0
Bromomethane		105.1	56.8	151.3
sec-Butylbenzene		94.5	77.4	129.8
tert-Butylbenzene		99.0	80.7	128.9
Carbon disulfide		99.8	63.8	137.4
Carbon tetrachloride		99.9	72.6	133.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230920A7.5339206M, Parent Sample ID: S53392.05

Run in Batch: 230920A7, Run Date: 09/20/2023 21:42, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chlorobenzene		102.1	79.2	122.7
Chloroethane		98.8	53.4	149.4
Chloroform		103.8	78.4	124.0
Chloromethane		98.4	23.8	166.5
1,1-Dichloroethane		103.4	71.5	126.2
1,1-Dichloroethene		98.2	69.6	139.4
1,2-Dibromo-3-chloropropane		103.5	21.2	189.4
1,2-Dibromoethane		105.2	70.3	133.7
1,2-Dichlorobenzene		100.5	10.0	166.2
1,2-Dichloroethane		100.2	76.0	126.3
1,2-Dichloropropane		108.5	78.6	126.4
1,3-Dichlorobenzene		99.1	77.0	131.3
1,4-Dichlorobenzene		100.6	20.7	137.7
cis-1,2-Dichloroethene		107.4	76.6	122.1
cis-1,3-Dichloropropene		108.6	79.8	129.9
Dibromochloromethane		107.8	74.6	127.2
Dibromomethane		108.6	76.9	122.1
Dichlorodifluoromethane		83.5	10.0	222.8
Diethyl ether		106.2	67.4	121.2
trans-1,2-Dichloroethene		101.4	73.6	129.3
trans-1,3-Dichloropropene		103.4	74.0	131.3
trans-1,4-Dichloro-2-butene		82.0	68.6	135.4
Ethylbenzene		100.3	79.5	129.1
2-Hexanone		104.9	55.4	136.9
Hexachloroethane		101.7	23.8	138.1
p-Isopropyltoluene		96.3	79.8	137.5
Isopropylbenzene		100.2	74.4	121.5
2-Methylnaphthalene		110.1	25.5	165.5
4-Methyl-2-pentanone (MIBK)		104.1	71.6	125.2
tert-Methyl butyl ether (MTBE)		109.4	73.2	122.4
Methyl iodide		106.0	68.8	116.4
Methylene chloride		104.8	73.3	121.1
Naphthalene		107.6	32.9	135.8
n-Propylbenzene		101.6	82.0	130.7
Styrene		104.8	69.5	126.7
1,1,1,2-Tetrachloroethane		107.3	80.3	128.2
1,1,1-Trichloroethane		101.3	79.4	130.9
1,1,2,2-Tetrachloroethane		101.7	79.8	126.3
1,1,2-Trichloroethane		106.1	78.7	123.1
1,2,3-Trichlorobenzene		107.8	75.4	131.4
1,2,3-Trichloropropane		99.9	78.3	138.8
1,2,3-Trimethylbenzene		100.2	76.3	124.2
1,2,4-Trichlorobenzene		105.1	27.4	143.4
1,2,4-Trimethylbenzene		103.5	81.4	130.8
1,3,5-Trimethylbenzene		101.9	81.3	128.9
Tetrachloroethene		102.0	74.5	124.5

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230920A7.5339206M, Parent Sample ID: S53392.05

Run in Batch: 230920A7, Run Date: 09/20/2023 21:42, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Tetrahydrofuran		93.2	59.0	117.9
Toluene		102.6	79.8	124.5
Trichloroethene		101.8	79.7	124.2
Trichlorofluoromethane	*	54.8	59.7	151.8
Vinyl chloride		93.2	43.5	149.1
o-Xylene		100.6	80.2	131.0
p,m-Xylene		100.7	79.4	132.2

Matrix Spike (MS)

Lab Sample ID: 230920A7.5340402M, Parent Sample ID: S53404.01

Run in Batch: 230920A7, Run Date: 09/20/2023 22:29, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		89.6	29.9	161.5
Acrylonitrile		102.2	69.9	128.9
2-Butanone (MEK)		93.8	44.0	134.4
Benzene		97.6	79.9	124.9
n-Butylbenzene		98.5	80.0	133.3
Bromobenzene		99.1	78.7	124.6
Bromochloromethane		98.1	78.2	120.8
Bromodichloromethane		99.6	80.4	128.2
Bromoform		99.0	69.4	128.0
Bromomethane		94.6	56.8	151.3
sec-Butylbenzene		97.6	77.4	129.8
tert-Butylbenzene		97.3	80.7	128.9
Carbon disulfide		93.3	63.8	137.4
Carbon tetrachloride		98.9	72.6	133.0
Chlorobenzene		95.8	79.2	122.7
Chloroethane		93.3	53.4	149.4
Chloroform		94.5	78.4	124.0
Chloromethane		91.7	23.8	166.5
1,1-Dichloroethane		95.2	71.5	126.2
1,1-Dichloroethene		94.5	69.6	139.4
1,2-Dibromo-3-chloropropane		103.4	21.2	189.4
1,2-Dibromoethane		100.7	70.3	133.7
1,2-Dichlorobenzene		97.1	10.0	166.2
1,2-Dichloroethane		94.2	76.0	126.3
1,2-Dichloropropane		100.6	78.6	126.4
1,3-Dichlorobenzene		97.4	77.0	131.3
1,4-Dichlorobenzene		98.1	20.7	137.7
cis-1,2-Dichloroethene		97.2	76.6	122.1
cis-1,3-Dichloropropene		101.1	79.8	129.9
Dibromochloromethane		101.1	74.6	127.2
Dibromomethane		104.2	76.9	122.1
Dichlorodifluoromethane		80.8	10.0	222.8
Diethyl ether		93.2	67.4	121.2
trans-1,2-Dichloroethene		94.9	73.6	129.3

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230920A7.5340402M, Parent Sample ID: S53404.01

Run in Batch: 230920A7, Run Date: 09/20/2023 22:29, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
trans-1,3-Dichloropropene		99.2	74.0	131.3
trans-1,4-Dichloro-2-butene		78.4	68.6	135.4
Ethylbenzene		96.6	79.5	129.1
2-Hexanone		102.5	55.4	136.9
Hexachloroethane		104.5	23.8	138.1
p-Isopropyltoluene		97.8	79.8	137.5
Isopropylbenzene		98.0	74.4	121.5
2-Methylnaphthalene		102.1	25.5	165.5
4-Methyl-2-pentanone (MIBK)		98.7	71.6	125.2
tert-Methyl butyl ether (MTBE)		100.8	73.2	122.4
Methyl iodide		97.8	68.8	116.4
Methylene chloride		94.0	73.3	121.1
Naphthalene		103.4	32.9	135.8
n-Propylbenzene		98.8	82.0	130.7
Styrene		96.9	69.5	126.7
1,1,1,2-Tetrachloroethane		98.8	80.3	128.2
1,1,1-Trichloroethane		97.6	79.4	130.9
1,1,2,2-Tetrachloroethane		98.9	79.8	126.3
1,1,2-Trichloroethane		100.2	78.7	123.1
1,2,3-Trichlorobenzene		102.9	75.4	131.4
1,2,3-Trichloropropane		97.1	78.3	138.8
1,2,3-Trimethylbenzene		96.0	76.3	124.2
1,2,4-Trichlorobenzene		100.8	27.4	143.4
1,2,4-Trimethylbenzene		98.1	81.4	130.8
1,3,5-Trimethylbenzene		98.6	81.3	128.9
Tetrachloroethene		102.1	74.5	124.5
Tetrahydrofuran		90.3	59.0	117.9
Toluene		97.7	79.8	124.5
Trichloroethene		98.7	79.7	124.2
Trichlorofluoromethane		60.0	59.7	151.8
Vinyl chloride		91.3	43.5	149.1
o-Xylene		95.2	80.2	131.0
p,m-Xylene		96.5	79.4	132.2

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230920A7.5339207N, Parent Sample ID: 230920A7.5339206M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:05, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		98.4	29.9	161.5	0.7	30.0
Acrylonitrile		111.7	69.9	128.9	4.5	30.0
2-Butanone (MEK)		108.3	44.0	134.4	8.8	30.0
Benzene		103.6	79.9	124.9	0.9	30.0
n-Butylbenzene		97.7	80.0	133.3	1.3	30.0
Bromobenzene		104.3	78.7	124.6	1.2	30.0
Bromochloromethane		111.6	78.2	120.8	1.6	30.0
Bromodichloromethane		108.2	80.4	128.2	1.7	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 230920A7.5339207N, Parent Sample ID: 230920A7.5339206M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:05, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Bromoform		106.6	69.4	128.0	4.2	30.0
Bromomethane		105.5	56.8	151.3	0.4	30.0
sec-Butylbenzene		95.1	77.4	129.8	0.6	30.0
tert-Butylbenzene		97.8	80.7	128.9	1.2	30.0
Carbon disulfide		100.8	63.8	137.4	1.0	30.0
Carbon tetrachloride		101.8	72.6	133.0	1.9	30.0
Chlorobenzene		100.7	79.2	122.7	1.4	30.0
Chloroethane		100.0	53.4	149.4	1.2	30.0
Chloroform		105.7	78.4	124.0	1.8	30.0
Chloromethane		101.4	23.8	166.5	3.0	30.0
1,1-Dichloroethane		105.5	71.5	126.2	2.1	30.0
1,1-Dichloroethene		100.3	69.6	139.4	2.0	30.0
1,2-Dibromo-3-chloropropane		113.1	21.2	189.4	8.8	30.0
1,2-Dibromoethane		106.8	70.3	133.7	1.5	30.0
1,2-Dichlorobenzene		100.9	10.0	166.2	0.3	30.0
1,2-Dichloroethane		101.2	76.0	126.3	1.0	30.0
1,2-Dichloropropane		108.9	78.6	126.4	0.3	30.0
1,3-Dichlorobenzene		99.5	77.0	131.3	0.5	30.0
1,4-Dichlorobenzene		100.7	20.7	137.7	0.2	30.0
cis-1,2-Dichloroethene		107.9	76.6	122.1	0.4	30.0
cis-1,3-Dichloropropene		110.9	79.8	129.9	2.1	30.0
Dibromochloromethane		108.2	74.6	127.2	0.4	30.0
Dibromomethane		113.0	76.9	122.1	4.0	30.0
Dichlorodifluoromethane		84.5	10.0	222.8	1.2	30.0
Diethyl ether		109.5	67.4	121.2	3.1	30.0
trans-1,2-Dichloroethene		102.7	73.6	129.3	1.3	30.0
trans-1,3-Dichloropropene		106.8	74.0	131.3	3.3	30.0
trans-1,4-Dichloro-2-butene		87.1	68.6	135.4	6.0	30.0
Ethylbenzene		98.9	79.5	129.1	1.4	30.0
2-Hexanone		119.4	55.4	136.9	12.9	30.0
Hexachloroethane		104.7	23.8	138.1	2.8	30.0
p-Isopropyltoluene		96.5	79.8	137.5	0.3	30.0
Isopropylbenzene		98.8	74.4	121.5	1.4	30.0
2-Methylnaphthalene		121.8	25.5	165.5	10.1	30.0
4-Methyl-2-pentanone (MIBK)		110.2	71.6	125.2	5.7	30.0
tert-Methyl butyl ether (MTBE)		107.7	73.2	122.4	1.5	30.0
Methyl iodide		109.2	68.8	116.4	2.9	30.0
Methylene chloride		106.1	73.3	121.1	1.2	30.0
Naphthalene		114.0	32.9	135.8	5.8	30.0
n-Propylbenzene		99.1	82.0	130.7	2.5	30.0
Styrene		102.8	69.5	126.7	1.9	30.0
1,1,1,2-Tetrachloroethane		107.4	80.3	128.2	0.1	30.0
1,1,1-Trichloroethane		104.2	79.4	130.9	2.8	30.0
1,1,2,2-Tetrachloroethane		105.1	79.8	126.3	3.2	30.0
1,1,2-Trichloroethane		108.6	78.7	123.1	2.4	30.0
1,2,3-Trichlorobenzene		111.0	75.4	131.4	3.0	30.0

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 230920A7.5339207N, Parent Sample ID: 230920A7.5339206M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:05, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trichloropropane		105.0	78.3	138.8	5.0	30.0
1,2,3-Trimethylbenzene		98.3	76.3	124.2	1.9	30.0
1,2,4-Trichlorobenzene		107.3	27.4	143.4	2.1	30.0
1,2,4-Trimethylbenzene		101.2	81.4	130.8	2.3	30.0
1,3,5-Trimethylbenzene		101.5	81.3	128.9	0.4	30.0
Tetrachloroethene		104.6	74.5	124.5	2.5	30.0
Tetrahydrofuran		96.3	59.0	117.9	3.2	30.0
Toluene		103.8	79.8	124.5	1.2	30.0
Trichloroethene		101.1	79.7	124.2	0.7	30.0
Trichlorofluoromethane	*	57.6	59.7	151.8	5.0	30.0
Vinyl chloride		97.4	43.5	149.1	4.4	30.0
o-Xylene		98.2	80.2	131.0	2.4	30.0
p,m-Xylene		98.0	79.4	132.2	2.7	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230920A7.5340403N, Parent Sample ID: 230920A7.5340402M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:53, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		96.4	29.9	161.5	7.3	30.0
Acrylonitrile		105.9	69.9	128.9	3.5	30.0
2-Butanone (MEK)		95.1	44.0	134.4	1.4	30.0
Benzene		100.7	79.9	124.9	3.2	30.0
n-Butylbenzene		102.8	80.0	133.3	4.3	30.0
Bromobenzene		101.5	78.7	124.6	2.4	30.0
Bromochloromethane		99.0	78.2	120.8	0.9	30.0
Bromodichloromethane		101.3	80.4	128.2	1.8	30.0
Bromoform		102.2	69.4	128.0	3.2	30.0
Bromomethane		99.3	56.8	151.3	4.8	30.0
sec-Butylbenzene		102.4	77.4	129.8	4.7	30.0
tert-Butylbenzene		102.8	80.7	128.9	5.5	30.0
Carbon disulfide		100.1	63.8	137.4	6.9	30.0
Carbon tetrachloride		104.9	72.6	133.0	5.9	30.0
Chlorobenzene		100.1	79.2	122.7	4.4	30.0
Chloroethane		99.5	53.4	149.4	6.5	30.0
Chloroform		98.0	78.4	124.0	3.7	30.0
Chloromethane		96.9	23.8	166.5	5.5	30.0
1,1-Dichloroethane		99.9	71.5	126.2	4.8	30.0
1,1-Dichloroethene		98.8	69.6	139.4	4.5	30.0
1,2-Dibromo-3-chloropropane		108.5	21.2	189.4	4.8	30.0
1,2-Dibromoethane		104.7	70.3	133.7	3.8	30.0
1,2-Dichlorobenzene		100.4	10.0	166.2	3.3	30.0
1,2-Dichloroethane		94.3	76.0	126.3	0.1	30.0
1,2-Dichloropropane		102.4	78.6	126.4	1.8	30.0
1,3-Dichlorobenzene		100.5	77.0	131.3	3.1	30.0
1,4-Dichlorobenzene		101.2	20.7	137.7	3.1	30.0
cis-1,2-Dichloroethene		99.2	76.6	122.1	2.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230920W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 230920A7.5340403N, Parent Sample ID: 230920A7.5340402M

Run in Batch: 230920A7, Run Date: 09/20/2023 22:53, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
cis-1,3-Dichloropropene		103.2	79.8	129.9	2.0	30.0
Dibromochloromethane		104.9	74.6	127.2	3.6	30.0
Dibromomethane		106.0	76.9	122.1	1.7	30.0
Dichlorodifluoromethane		86.1	10.0	222.8	6.3	30.0
Diethyl ether		96.9	67.4	121.2	3.8	30.0
trans-1,2-Dichloroethene		100.3	73.6	129.3	5.5	30.0
trans-1,3-Dichloropropene		100.2	74.0	131.3	1.0	30.0
trans-1,4-Dichloro-2-butene		85.2	68.6	135.4	8.4	30.0
Ethylbenzene		102.9	79.5	129.1	6.4	30.0
2-Hexanone		103.7	55.4	136.9	1.2	30.0
Hexachloroethane		110.3	23.8	138.1	5.4	30.0
p-Isopropyltoluene		102.1	79.8	137.5	4.2	30.0
Isopropylbenzene		103.4	74.4	121.5	5.4	30.0
2-Methylnaphthalene		102.8	25.5	165.5	0.7	30.0
4-Methyl-2-pentanone (MIBK)		102.3	71.6	125.2	3.6	30.0
tert-Methyl butyl ether (MTBE)		100.2	73.2	122.4	0.6	30.0
Methyl iodide		102.7	68.8	116.4	4.9	30.0
Methylene chloride		97.3	73.3	121.1	3.4	30.0
Naphthalene		109.0	32.9	135.8	5.2	30.0
n-Propylbenzene		103.9	82.0	130.7	5.0	30.0
Styrene		100.9	69.5	126.7	4.1	30.0
1,1,1,2-Tetrachloroethane		104.7	80.3	128.2	5.8	30.0
1,1,1-Trichloroethane		102.0	79.4	130.9	4.3	30.0
1,1,2,2-Tetrachloroethane		102.5	79.8	126.3	3.6	30.0
1,1,2-Trichloroethane		102.3	78.7	123.1	2.1	30.0
1,2,3-Trichlorobenzene		106.2	75.4	131.4	3.2	30.0
1,2,3-Trichloropropane		100.5	78.3	138.8	3.5	30.0
1,2,3-Trimethylbenzene		99.7	76.3	124.2	3.8	30.0
1,2,4-Trichlorobenzene		106.2	27.4	143.4	5.3	30.0
1,2,4-Trimethylbenzene		103.9	81.4	130.8	5.8	30.0
1,3,5-Trimethylbenzene		104.7	81.3	128.9	5.9	30.0
Tetrachloroethene		104.5	74.5	124.5	2.3	30.0
Tetrahydrofuran		86.3	59.0	117.9	4.5	30.0
Toluene		101.1	79.8	124.5	3.4	30.0
Trichloroethene		102.1	79.7	124.2	3.5	30.0
Trichlorofluoromethane	*	54.2	59.7	151.8	10.2	30.0
Vinyl chloride		96.6	43.5	149.1	5.7	30.0
o-Xylene		100.9	80.2	131.0	5.9	30.0
p,m-Xylene		100.5	79.4	132.2	4.0	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230922W2

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

Blank (BLK)

Lab Sample ID: 230922A7.BLKW22A

Run in Batch: 230922A7, Run Date: 09/22/2023 14:26, Prep Date: 09/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

Organics - Volatiles, Prep Batch ID: VF230922W2 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230922A7.BLKW22A

Run in Batch: 230922A7, Run Date: 09/22/2023 14:26, Prep Date: 09/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230922A7.LCSW22A

Run in Batch: 230922A7, Run Date: 09/22/2023 12:51, Prep Date: 09/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		93.3	67.4	121.2
Acetone		89.1	29.9	161.5
Methyl iodide		103.2	68.8	116.4
Carbon disulfide		98.8	63.8	137.4
tert-Methyl butyl ether (MTBE)		98.0	73.2	122.4
Acrylonitrile		102.8	69.9	128.9
2-Butanone (MEK)		92.1	44.0	134.4
Dichlorodifluoromethane		80.9	10.0	222.8
Chloromethane		88.8	23.8	166.5
Vinyl chloride		90.5	43.5	149.1
Bromomethane		95.3	56.8	151.3
Chloroethane		94.0	53.4	149.4
Trichlorofluoromethane		93.0	59.7	151.8
1,1-Dichloroethene		97.8	69.6	139.4
Methylene chloride		97.6	73.3	121.1
trans-1,2-Dichloroethene		97.5	73.6	129.3
1,1-Dichloroethane		98.0	71.5	126.2
cis-1,2-Dichloroethene		97.9	76.6	122.1
Tetrahydrofuran		86.5	59.0	117.9
Chloroform		96.8	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230922W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230922A7.LCSW22A

Run in Batch: 230922A7, Run Date: 09/22/2023 12:51, Prep Date: 09/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		100.5	78.2	120.8
1,1,1-Trichloroethane		101.6	79.4	130.9
4-Methyl-2-pentanone (MIBK)		99.9	71.6	125.2
2-Hexanone		97.9	55.4	136.9
Carbon tetrachloride		105.0	72.6	133.0
Benzene		99.7	79.9	124.9
1,2-Dichloroethane		93.6	76.0	126.3
Trichloroethene		101.7	79.7	124.2
1,2-Dichloropropane		101.1	78.6	126.4
Bromodichloromethane		101.6	80.4	128.2
Dibromomethane		104.6	76.9	122.1
cis-1,3-Dichloropropene		105.3	79.8	129.9
Toluene		100.1	79.8	124.5
trans-1,3-Dichloropropene		101.7	74.0	131.3
1,1,2-Trichloroethane		99.5	78.7	123.1
Tetrachloroethene		104.8	74.5	124.5
trans-1,4-Dichloro-2-butene		99.6	68.6	135.4
Dibromochloromethane		103.7	74.6	127.2
1,2-Dibromoethane		100.3	70.3	133.7
Chlorobenzene		98.7	79.2	122.7
1,1,1,2-Tetrachloroethane		102.6	80.3	128.2
Ethylbenzene		98.6	79.5	129.1
p,m-Xylene		98.4	79.4	132.2
o-Xylene		96.7	80.2	131.0
Styrene		100.1	69.5	126.7
Isopropylbenzene		100.7	74.4	121.5
Bromoform		103.0	69.4	128.0
1,1,2,2-Tetrachloroethane		96.5	79.8	126.3
1,2,3-Trichloropropane		96.2	78.3	138.8
n-Propylbenzene		100.9	82.0	130.7
Bromobenzene		101.5	78.7	124.6
1,3,5-Trimethylbenzene		101.2	81.3	128.9
tert-Butylbenzene		99.0	80.7	128.9
1,2,4-Trimethylbenzene		101.3	81.4	130.8
sec-Butylbenzene		98.0	77.4	129.8
p-Isopropyltoluene		98.8	79.8	137.5
1,3-Dichlorobenzene		97.9	77.0	131.3
1,4-Dichlorobenzene		97.7	20.7	137.7
1,2-Dichlorobenzene		96.3	10.0	166.2
1,2,3-Trimethylbenzene		95.1	76.3	124.2
n-Butylbenzene		100.5	80.0	133.3
Hexachloroethane		106.6	23.8	138.1
1,2-Dibromo-3-chloropropane		103.3	21.2	189.4
1,2,4-Trichlorobenzene		104.3	27.4	143.4
1,2,3-Trichlorobenzene		104.8	75.4	131.4
Naphthalene		101.5	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230922W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230922A7.LCSW22A

Run in Batch: 230922A7, Run Date: 09/22/2023 12:51, Prep Date: 09/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		94.0	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230922A7.LCSDW22A, Parent Sample ID: 230922A7.LCSW22A

Run in Batch: 230922A7, Run Date: 09/22/2023 13:15, Prep Date: 09/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		104.0	67.4	121.2	10.9	30.0
Acetone		95.6	29.9	161.5	7.0	30.0
Methyl iodide		106.7	68.8	116.4	3.3	30.0
Carbon disulfide		96.1	63.8	137.4	2.7	30.0
tert-Methyl butyl ether (MTBE)		112.7	73.2	122.4	14.0	30.0
Acrylonitrile		106.4	69.9	128.9	3.4	30.0
2-Butanone (MEK)		99.5	44.0	134.4	7.7	30.0
Dichlorodifluoromethane		77.1	10.0	222.8	4.8	30.0
Chloromethane		91.0	23.8	166.5	2.5	30.0
Vinyl chloride		87.2	43.5	149.1	3.7	30.0
Bromomethane		96.8	56.8	151.3	1.6	30.0
Chloroethane		92.5	53.4	149.4	1.7	30.0
Trichlorofluoromethane		90.0	59.7	151.8	3.2	30.0
1,1-Dichloroethene		95.9	69.6	139.4	1.9	30.0
Methylene chloride		103.5	73.3	121.1	5.9	30.0
trans-1,2-Dichloroethene		97.4	73.6	129.3	0.1	30.0
1,1-Dichloroethane		101.1	71.5	126.2	3.1	30.0
cis-1,2-Dichloroethene		103.8	76.6	122.1	5.9	30.0
Tetrahydrofuran		96.3	59.0	117.9	10.7	30.0
Chloroform		102.4	78.4	124.0	5.6	30.0
Bromochloromethane		108.7	78.2	120.8	7.8	30.0
1,1,1-Trichloroethane		101.5	79.4	130.9	0.1	30.0
4-Methyl-2-pentanone (MIBK)		105.7	71.6	125.2	5.6	30.0
2-Hexanone		106.7	55.4	136.9	8.6	30.0
Carbon tetrachloride		100.1	72.6	133.0	4.8	30.0
Benzene		100.9	79.9	124.9	1.2	30.0
1,2-Dichloroethane		101.0	76.0	126.3	7.6	30.0
Trichloroethene		101.2	79.7	124.2	0.5	30.0
1,2-Dichloropropane		106.4	78.6	126.4	5.1	30.0
Bromodichloromethane		107.7	80.4	128.2	5.8	30.0
Dibromomethane		112.4	76.9	122.1	7.2	30.0
cis-1,3-Dichloropropene		112.9	79.8	129.9	6.9	30.0
Toluene		100.7	79.8	124.5	0.6	30.0
trans-1,3-Dichloropropene		109.3	74.0	131.3	7.2	30.0
1,1,2-Trichloroethane		106.4	78.7	123.1	6.7	30.0
Tetrachloroethene		101.4	74.5	124.5	3.3	30.0
trans-1,4-Dichloro-2-butene		101.9	68.6	135.4	2.3	30.0
Dibromochloromethane		109.8	74.6	127.2	5.7	30.0
1,2-Dibromoethane		103.7	70.3	133.7	3.4	30.0
Chlorobenzene		99.4	79.2	122.7	0.7	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230922W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230922A7.LCSDW22A, Parent Sample ID: 230922A7.LCSW22A

Run in Batch: 230922A7, Run Date: 09/22/2023 13:15, Prep Date: 09/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		104.8	80.3	128.2	2.1	30.0
Ethylbenzene		96.2	79.5	129.1	2.4	30.0
p,m-Xylene		96.2	79.4	132.2	2.3	30.0
o-Xylene		96.3	80.2	131.0	0.4	30.0
Styrene		101.7	69.5	126.7	1.6	30.0
Isopropylbenzene		96.2	74.4	121.5	4.5	30.0
Bromoform		107.8	69.4	128.0	4.5	30.0
1,1,2,2-Tetrachloroethane		98.8	79.8	126.3	2.3	30.0
1,2,3-Trichloropropane		100.1	78.3	138.8	4.0	30.0
n-Propylbenzene		96.7	82.0	130.7	4.3	30.0
Bromobenzene		104.3	78.7	124.6	2.7	30.0
1,3,5-Trimethylbenzene		98.6	81.3	128.9	2.6	30.0
tert-Butylbenzene		95.5	80.7	128.9	3.7	30.0
1,2,4-Trimethylbenzene		99.7	81.4	130.8	1.7	30.0
sec-Butylbenzene		93.4	77.4	129.8	4.8	30.0
p-Isopropyltoluene		94.5	79.8	137.5	4.5	30.0
1,3-Dichlorobenzene		99.2	77.0	131.3	1.3	30.0
1,4-Dichlorobenzene		99.5	20.7	137.7	1.8	30.0
1,2-Dichlorobenzene		99.2	10.0	166.2	2.9	30.0
1,2,3-Trimethylbenzene		95.9	76.3	124.2	0.9	30.0
n-Butylbenzene		95.3	80.0	133.3	5.3	30.0
Hexachloroethane		105.5	23.8	138.1	1.0	30.0
1,2-Dibromo-3-chloropropane		107.8	21.2	189.4	4.3	30.0
1,2,4-Trichlorobenzene		107.1	27.4	143.4	2.7	30.0
1,2,3-Trichlorobenzene		109.3	75.4	131.4	4.2	30.0
Naphthalene		105.9	32.9	135.8	4.2	30.0
2-Methylnaphthalene		103.0	25.5	165.5	9.2	30.0

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Rodney Abke		CONTACT NAME Monica Wallingford		☐ SAME	
COMPANY Applied EcoSystems		COMPANY Revitalizing Auto Communities Environmental Response (RACER) Trust			
ADDRESS G-4300 South Saginaw Street		ADDRESS			
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.			
ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)					

[illegible]

RELINQUISHED BY: SIGNATURE/ORGANIZATION	AC	☒ Sampler	DATE 9/14/03	TIME 17:00	RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	[Signature]		DATE 9/15/03	TIME 9:15	RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION	[Signature]		DATE 9/15/03	TIME 10:00	SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL _____ 52
RECEIVED BY: SIGNATURE/ORGANIZATION	[Signature]		DATE 9/15/03	TIME 12:00	SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

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



Quality Control Report

Report ID: QC-S53418-01
Generated on 10/06/2023

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): S53418.01-S53418.05
Project: RACER Flint West #12990
Submitted Date/Time: 09/15/2023 10:00
Sampled by: Unknown
P.O. #: 795930

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-6)
Prep Batch Summary (Page 7)
Internal Standards per Lab Sample (Pages 8-12)
Internal Standards per QC Sample (Pages 13-17)
Batch QC Results (Pages 18-22)

Report Flag Descriptions

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

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

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S53418.01

Sample Tag: MW-114S-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	09/20/23 14:54	AK230920	PF230920W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S53418.02

Sample Tag: Dup-1-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	09/20/23 15:33	AK230920	PF230920W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S53418.03

Sample Tag: MW-110S-230914

Collected Date/Time: 09/14/2023 16:30

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	09/20/23 16:12	AK230920	PF230920W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S53418.04

Sample Tag: EB-1

Collected Date/Time: 09/14/2023 16:55

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	09/20/23 16:31	AK230920	PF230920W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S53418.05

Sample Tag: Trip Blank

Collected Date/Time: 09/14/2023 00:01

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	09/20/23 16:51	AK230920	PF230920W1	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF230920W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53418.01	28 PFAs	ASTMD7979-19M	09/20/23 14:54	AK230920
S53418.02	28 PFAs	ASTMD7979-19M	09/20/23 15:33	AK230920
S53418.03	28 PFAs	ASTMD7979-19M	09/20/23 16:12	AK230920
S53418.04	28 PFAs	ASTMD7979-19M	09/20/23 16:31	AK230920
S53418.05	28 PFAs	ASTMD7979-19M	09/20/23 16:51	AK230920

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53418.01

Sample Tag: MW-114S-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK230920, Run Date: 09/20/2023 14:54, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		112.7	50.0	150.0
M2-6:2FTSA		107.6	50.0	150.0
M2-8:2FTSA		98.0	50.0	150.0
M2PFTeDA		117.1	12.0	218.0
M3PFBS		97.0	50.0	150.0
M3PFHxS		106.9	50.0	150.0
M4PFHpA		107.0	50.0	150.0
M5PFHxA		100.6	50.0	150.0
M5PFPeA		100.2	50.0	150.0
M6PFDA		106.4	50.0	150.0
M7PFUnDA		105.5	50.0	150.0
M8FOSA		104.7	50.0	150.0
M8PFOA		107.0	50.0	150.0
M8PFOS		103.6	50.0	150.0
M9-PFNA		107.2	50.0	150.0
MPFBA		103.0	50.0	150.0
MPFDoDA		105.7	50.0	150.0
d3N-MeFOSAA		87.1	50.0	150.0
d5EtFOSAA		95.3	50.0	150.0
MHFPO-DA		113.7	50.0	150.0
d-N-EtFOSA-M		98.0	50.0	150.0
d-N-MeFOSA-M		96.0	50.0	150.0
d7-N-MeFOSE-M		105.0	50.0	150.0
d9-N-EtFOSE-M		111.8	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53418.02

Sample Tag: Dup-1-230914

Collected Date/Time: 09/14/2023 15:00

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK230920, Run Date: 09/20/2023 15:33, Matrix: WW, Dilution: 1.98

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		119.2	50.0	150.0
M2-6:2FTSA		103.3	50.0	150.0
M2-8:2FTSA		99.3	50.0	150.0
M2PFTeDA		122.1	12.0	218.0
M3PFBS		95.3	50.0	150.0
M3PFHxS		93.1	50.0	150.0
M4PFHpA		114.1	50.0	150.0
M5PFHxA		102.6	50.0	150.0
M5PFPeA		104.2	50.0	150.0
M6PFDA		108.9	50.0	150.0
M7PFUnDA		94.2	50.0	150.0
M8FOSA		104.9	50.0	150.0
M8PFOA		111.6	50.0	150.0
M8PFOS		103.3	50.0	150.0
M9-PFNA		100.8	50.0	150.0
MPFBA		101.8	50.0	150.0
MPFDoDA		115.8	50.0	150.0
d3N-MeFOSAA		100.3	50.0	150.0
d5EtFOSAA		97.1	50.0	150.0
MHFPO-DA		106.8	50.0	150.0
d-N-EtFOSA-M		93.1	50.0	150.0
d-N-MeFOSA-M		92.1	50.0	150.0
d7-N-MeFOSE-M		101.3	50.0	150.0
d9-N-EtFOSE-M		103.6	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53418.03

Sample Tag: MW-110S-230914

Collected Date/Time: 09/14/2023 16:30

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK230920, Run Date: 09/20/2023 16:12, Matrix: WW, Dilution: 1.92

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		107.5	50.0	150.0
M2-6:2FTSA		108.6	50.0	150.0
M2-8:2FTSA		91.0	50.0	150.0
M2PFTeDA		113.5	12.0	218.0
M3PFBS		92.5	50.0	150.0
M3PFHxS		106.3	50.0	150.0
M4PFHpA		110.6	50.0	150.0
M5PFHxA		95.8	50.0	150.0
M5PFPeA		102.6	50.0	150.0
M6PFDA		106.5	50.0	150.0
M7PFUnDA		99.1	50.0	150.0
M8FOSA		107.9	50.0	150.0
M8PFOA		104.2	50.0	150.0
M8PFOS		110.6	50.0	150.0
M9-PFNA		104.0	50.0	150.0
MPFBA		102.8	50.0	150.0
MPFDoDA		117.0	50.0	150.0
d3N-MeFOSAA		102.7	50.0	150.0
d5EtFOSAA		99.9	50.0	150.0
MHFPO-DA		98.7	50.0	150.0
d-N-EtFOSA-M		99.1	50.0	150.0
d-N-MeFOSA-M		96.8	50.0	150.0
d7-N-MeFOSE-M		109.2	50.0	150.0
d9-N-EtFOSE-M		108.4	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53418.04

Sample Tag: EB-1

Collected Date/Time: 09/14/2023 16:55

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK230920, Run Date: 09/20/2023 16:31, Matrix: WW, Dilution: 2.02

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		121.4	50.0	150.0
M2-6:2FTSA		102.5	50.0	150.0
M2-8:2FTSA		113.7	50.0	150.0
M2PFTeDA		117.9	12.0	218.0
M3PFBS		97.5	50.0	150.0
M3PFHxS		100.0	50.0	150.0
M4PFHpA		110.6	50.0	150.0
M5PFHxA		102.7	50.0	150.0
M5PFPeA		106.4	50.0	150.0
M6PFDA		106.1	50.0	150.0
M7PFUnDA		98.5	50.0	150.0
M8FOSA		107.7	50.0	150.0
M8PFOA		116.6	50.0	150.0
M8PFOS		111.7	50.0	150.0
M9-PFNA		108.1	50.0	150.0
MPFBA		104.3	50.0	150.0
MPFDoDA		113.3	50.0	150.0
d3N-MeFOSAA		99.8	50.0	150.0
d5EtFOSAA		99.1	50.0	150.0
MHFPO-DA		98.8	50.0	150.0
d-N-EtFOSA-M		104.2	50.0	150.0
d-N-MeFOSA-M		103.1	50.0	150.0
d7-N-MeFOSE-M		102.5	50.0	150.0
d9-N-EtFOSE-M		105.2	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53418.05

Sample Tag: Trip Blank

Collected Date/Time: 09/14/2023 00:01

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK230920, Run Date: 09/20/2023 16:51, Matrix: WW, Dilution: 2.04

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		124.4	50.0	150.0
M2-6:2FTSA		117.8	50.0	150.0
M2-8:2FTSA		103.1	50.0	150.0
M2PFTeDA		137.4	12.0	218.0
M3PFBS		102.9	50.0	150.0
M3PFHxS		98.2	50.0	150.0
M4PFHpA		107.3	50.0	150.0
M5PFHxA		109.2	50.0	150.0
M5PFPeA		102.1	50.0	150.0
M6PFDA		105.7	50.0	150.0
M7PFUnDA		106.5	50.0	150.0
M8FOSA		107.6	50.0	150.0
M8PFOA		115.7	50.0	150.0
M8PFOS		111.7	50.0	150.0
M9-PFNA		110.5	50.0	150.0
MPFBA		103.7	50.0	150.0
MPFDoDA		115.1	50.0	150.0
d3N-MeFOSAA		96.1	50.0	150.0
d5EtFOSAA		109.2	50.0	150.0
MHFPO-DA		95.8	50.0	150.0
d-N-EtFOSA-M		103.4	50.0	150.0
d-N-MeFOSA-M		97.9	50.0	150.0
d7-N-MeFOSE-M		109.8	50.0	150.0
d9-N-EtFOSE-M		105.6	50.0	150.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: PF230920W1

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

Blank (BLK)

Lab Sample ID: AK230920_RUSH.BLK230920

Run in Batch: AK230920_RUSH, Run Date: 09/20/2023 13:16, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		120.4	50.0	150.0
M2-6:2FTSA		91.2	50.0	150.0
M2-8:2FTSA		95.9	50.0	150.0
M2PFTeDA		143.9	12.0	218.0
M3PFBS		101.2	50.0	150.0
M3PFHxS		104.3	50.0	150.0
M4PFHpA		119.6	50.0	150.0
M5PFHxA		107.5	50.0	150.0
M5PFPeA		98.7	50.0	150.0
M6PFDA		108.2	50.0	150.0
M7PFUnDA		100.6	50.0	150.0
M8FOSA		106.6	50.0	150.0
M8PFOA		92.3	50.0	150.0
M8PFOS		102.4	50.0	150.0
M9-PFNA		106.1	50.0	150.0
MPFBA		80.9	50.0	150.0
MPFDoDA		113.9	50.0	150.0
d3N-MeFOSAA		96.7	50.0	150.0
d5EtFOSAA		103.8	50.0	150.0
MHFPO-DA		119.4	50.0	150.0
d-N-EtFOSA-M		105.0	50.0	150.0
d-N-MeFOSA-M		104.5	50.0	150.0
d7-N-MeFOSE-M		100.5	50.0	150.0
d9-N-EtFOSE-M		105.1	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample (LCS)

Lab Sample ID: AK230920_RUSH.LCS230920

Run in Batch: AK230920_RUSH, Run Date: 09/20/2023 12:37, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		116.1	50.0	150.0
M2-6:2FTSA		95.5	50.0	150.0
M2-8:2FTSA		102.6	50.0	150.0
M2PFTeDA		113.9	12.0	218.0
M3PFBS		102.2	50.0	150.0
M3PFHxS		97.0	50.0	150.0
M4PFHpA		103.9	50.0	150.0
M5PFHxA		104.7	50.0	150.0
M5PFPeA		102.7	50.0	150.0
M6PFDA		111.3	50.0	150.0
M7PFUnDA		100.7	50.0	150.0
M8FOSA		109.2	50.0	150.0
M8PFOA		99.4	50.0	150.0
M8PFOS		103.4	50.0	150.0
M9-PFNA		102.1	50.0	150.0
MPFBA		101.6	50.0	150.0
MPFDoDA		93.3	50.0	150.0
d3N-MeFOSAA		113.9	50.0	150.0
d5EtFOSAA		98.6	50.0	150.0
MHFPO-DA		123.6	50.0	150.0
d-N-EtFOSA-M		107.6	50.0	150.0
d-N-MeFOSA-M		109.4	50.0	150.0
d7-N-MeFOSE-M		99.0	50.0	150.0
d9-N-EtFOSE-M		102.6	50.0	150.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230920_RUSH.LCSD230920, Parent Sample ID: AK230920_RUSH.LCS230920

Run in Batch: AK230920_RUSH, Run Date: 09/20/2023 12:56, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		114.1	50.0	150.0
M2-6:2FTSA		93.6	50.0	150.0
M2-8:2FTSA		85.9	50.0	150.0
M2PFTeDA		126.7	12.0	218.0
M3PFBS		103.5	50.0	150.0
M3PFHxS		101.3	50.0	150.0
M4PFHpA		105.2	50.0	150.0
M5PFHxA		104.2	50.0	150.0
M5PFPeA		100.7	50.0	150.0
M6PFDA		98.8	50.0	150.0
M7PFUnDA		96.8	50.0	150.0
M8FOSA		108.4	50.0	150.0
M8PFOA		94.5	50.0	150.0
M8PFOS		95.4	50.0	150.0
M9-PFNA		100.4	50.0	150.0
MPFBA		99.8	50.0	150.0
MPFDoDA		104.2	50.0	150.0
d3N-MeFOSAA		97.9	50.0	150.0
d5EtFOSAA		108.8	50.0	150.0
MHFPO-DA		101.8	50.0	150.0
d-N-EtFOSA-M		105.0	50.0	150.0
d-N-MeFOSA-M		104.2	50.0	150.0
d7-N-MeFOSE-M		101.6	50.0	150.0
d9-N-EtFOSE-M		103.6	50.0	150.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: AK230920.5341801M, Parent Sample ID: S53418.01

Run in Batch: AK230920, Run Date: 09/20/2023 15:13, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		113.2	50.0	150.0
M2-6:2FTSA		108.1	50.0	150.0
M2-8:2FTSA		102.8	50.0	150.0
M2PFTeDA		120.4	12.0	218.0
M3PFBS		95.4	50.0	150.0
M3PFHxS		104.2	50.0	150.0
M4PFHpA		110.0	50.0	150.0
M5PFHxA		106.5	50.0	150.0
M5PFPeA		107.7	50.0	150.0
M6PFDA		108.6	50.0	150.0
M7PFUnDA		105.5	50.0	150.0
M8FOSA		108.1	50.0	150.0
M8PFOA		115.8	50.0	150.0
M8PFOS		119.4	50.0	150.0
M9-PFNA		116.4	50.0	150.0
MPFBA		104.6	50.0	150.0
MPFDoDA		119.0	50.0	150.0
d3N-MeFOSAA		94.4	50.0	150.0
d5EtFOSAA		108.8	50.0	150.0
MHFPO-DA		100.5	50.0	150.0
d-N-EtFOSA-M		99.4	50.0	150.0
d-N-MeFOSA-M		97.4	50.0	150.0
d7-N-MeFOSE-M		105.6	50.0	150.0
d9-N-EtFOSE-M		110.1	50.0	150.0

QC Report - Internal Standards per QC Sample

Duplicate (DUP)

Lab Sample ID: AK230920.5341802D, Parent Sample ID: S53418.02

Run in Batch: AK230920, Run Date: 09/20/2023 15:52, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1.98

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		108.4	50.0	150.0
M2-6:2FTSA		108.9	50.0	150.0
M2-8:2FTSA		96.7	50.0	150.0
M2PFTeDA		123.5	12.0	218.0
M3PFBS		99.5	50.0	150.0
M3PFHxS		102.5	50.0	150.0
M4PFHpA		113.5	50.0	150.0
M5PFHxA		114.6	50.0	150.0
M5PFPeA		102.8	50.0	150.0
M6PFDA		105.0	50.0	150.0
M7PFUnDA		98.9	50.0	150.0
M8FOSA		108.0	50.0	150.0
M8PFOA		110.9	50.0	150.0
M8PFOS		120.8	50.0	150.0
M9-PFNA		114.8	50.0	150.0
MPFBA		106.2	50.0	150.0
MPFDoDA		103.8	50.0	150.0
d3N-MeFOSAA		87.0	50.0	150.0
d5EtFOSAA		103.5	50.0	150.0
MHFPO-DA		110.7	50.0	150.0
d-N-EtFOSA-M		99.8	50.0	150.0
d-N-MeFOSA-M		95.1	50.0	150.0
d7-N-MeFOSE-M		106.1	50.0	150.0
d9-N-EtFOSE-M		107.0	50.0	150.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230920W1

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

Blank (BLK)

Lab Sample ID: AK230920_RUSH.BLK230920

Run in Batch: AK230920_RUSH, Run Date: 09/20/2023 13:16, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFMPA		ND	2	ng/l
FPrPA (3:3 FTCA)		ND	4	ng/l
PFPPrS		ND	2	ng/l
PFPeA		ND	4	ng/l
PFMBA		ND	2	ng/l
4:2 FTSA		ND	2	ng/l
NFDHA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
HFPO-DA		ND	2	ng/l
FPePA (5:3 FTCA)		ND	4	ng/l
PFEESA		ND	2	ng/l
PFFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
ADONA		ND	2	ng/l
PFBSA		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
FHpPA (7:3 FTCA)		ND	4	ng/l
PFNA		ND	2	ng/l
PFECHS		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFFHpS		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
PFDA		ND	2	ng/l
PFOS-BR		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS		ND	2	ng/l
PFHxSA		ND	2	ng/l
PFOS-LN		ND	2	ng/l
PFUnDA		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTTrDA		ND	2	ng/l
FOSA		ND	2	ng/l
11CL-PF3OUdS		ND	2	ng/l
PFTeDA		ND	4	ng/l
PFDOS		ND	6	ng/l
NMeFOSE		ND	4	ng/l
NMeFOSAM		ND	2	ng/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230920W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: AK230920_RUSH.BLK230920

Run in Batch: AK230920_RUSH, Run Date: 09/20/2023 13:16, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
NEtFOSE		ND	4	ng/l
NEtFOSAM		ND	2	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: AK230920_RUSH.LCS230920

Run in Batch: AK230920_RUSH, Run Date: 09/20/2023 12:37, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		94.0	70.0	130.0
PFMPA		104.2	70.0	130.0
FPrPA (3:3 FTCA)		87.8	70.0	130.0
PFPPrS		104.8	70.0	130.0
PFPeA		91.6	70.0	130.0
PFMBA		99.4	70.0	130.0
4:2 FTSA		96.6	70.0	130.0
NFDHA		88.2	70.0	130.0
PFHxA		98.8	70.0	130.0
PFBS		96.2	70.0	130.0
HFPO-DA		85.6	70.0	130.0
FPePA (5:3 FTCA)		100.2	70.0	130.0
PFEESA		99.2	70.0	130.0
PFHpA		94.4	70.0	130.0
PFPeS		89.4	70.0	130.0
ADONA		97.4	70.0	130.0
PFBSA		82.8	70.0	130.0
6:2 FTSA		94.0	70.0	130.0
PFOA		104.8	70.0	130.0
PFHxS		103.4	70.0	130.0
FHpPA (7:3 FTCA)		104.2	70.0	130.0
PFNA		94.8	70.0	130.0
PFECHS		117.8	70.0	130.0
8:2 FTSA		98.2	70.0	130.0
PFHpS		89.4	70.0	130.0
N-MeFOSAA		83.0	70.0	130.0
PFDA		81.8	70.0	130.0
EtFOSAA		91.6	70.0	130.0
PFOS		89.2	70.0	130.0
PFHxSA		89.4	70.0	130.0
PFUnDA		86.6	70.0	130.0
9CL-PF3ONS		90.8	70.0	130.0
PFNS		99.4	70.0	130.0
PFDoDA		98.0	70.0	130.0
PFDS		99.4	70.0	130.0
PFTTrDA		121.2	70.0	130.0
FOSA		83.4	70.0	130.0
11CL-PF3OUdS		93.6	70.0	130.0
PFTeDA		100.6	70.0	130.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230920W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: AK230920_RUSH.LCS230920

Run in Batch: AK230920_RUSH, Run Date: 09/20/2023 12:37, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFDOS		127.0	70.0	130.0
NMeFOSE		98.2	70.0	130.0
NMeFOSAM		89.4	70.0	130.0
NEtFOSE		98.0	70.0	130.0
NEtFOSAM		99.8	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK230920_RUSH.LCSD230920, Parent Sample ID: AK230920_RUSH.LCS230920

Run in Batch: AK230920_RUSH, Run Date: 09/20/2023 12:56, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		95.6	70.0	130.0	1.7	30.0
PFMPA		106.6	70.0	130.0	2.3	30.0
FPrPA (3:3 FTCA)		90.0	70.0	130.0	2.5	30.0
PFPPrS		98.6	70.0	130.0	6.1	30.0
PFPpA		92.4	70.0	130.0	0.9	30.0
PFMBA		105.0	70.0	130.0	5.5	30.0
4:2 FTSA		89.6	70.0	130.0	7.5	30.0
NFDHA		87.4	70.0	130.0	0.9	30.0
PFHxA		93.6	70.0	130.0	5.4	30.0
PFBS		102.6	70.0	130.0	6.4	30.0
HFPO-DA		97.2	70.0	130.0	12.7	30.0
FPePA (5:3 FTCA)		87.4	70.0	130.0	13.6	30.0
PFEESA		112.8	70.0	130.0	12.8	30.0
PFHpA		105.6	70.0	130.0	11.2	30.0
PFPpS		88.8	70.0	130.0	0.7	30.0
ADONA		101.0	70.0	130.0	3.6	30.0
PFBSA		82.0	70.0	130.0	1.0	30.0
6:2 FTSA		91.6	70.0	130.0	2.6	30.0
PFOA		95.8	70.0	130.0	9.0	30.0
PFHxS		91.2	70.0	130.0	12.5	30.0
FHpPA (7:3 FTCA)		105.0	70.0	130.0	0.8	30.0
PFNA		82.6	70.0	130.0	13.8	30.0
PFECHS		122.4	70.0	130.0	3.8	30.0
8:2 FTSA		108.2	70.0	130.0	9.7	30.0
PFHpS		84.8	70.0	130.0	5.3	30.0
N-MeFOSAA		91.4	70.0	130.0	9.6	30.0
PFDA		88.0	70.0	130.0	7.3	30.0
EtFOSAA		74.2	70.0	130.0	21.0	30.0
PFOS		97.6	70.0	130.0	9.0	30.0
PFHxSA		81.4	70.0	130.0	9.4	30.0
PFUnDA		101.6	70.0	130.0	15.9	30.0
9CL-PF3ONS		104.6	70.0	130.0	14.1	30.0
PFNS		109.0	70.0	130.0	9.2	30.0
PFDODA		91.0	70.0	130.0	7.4	30.0
PFDS		103.0	70.0	130.0	3.6	30.0
PFTTrDA		120.2	70.0	130.0	0.8	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230920W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK230920_RUSH.LCSD230920, Parent Sample ID: AK230920_RUSH.LCS230920

Run in Batch: AK230920_RUSH, Run Date: 09/20/2023 12:56, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
FOSA		84.2	70.0	130.0	1.0	30.0
11CL-PF3OUdS		96.4	70.0	130.0	2.9	30.0
PFTeDA		100.8	70.0	130.0	0.2	30.0
PFDOS		126.4	70.0	130.0	0.5	30.0
NMeFOSE		97.8	70.0	130.0	0.4	30.0
NMeFOSAM		93.6	70.0	130.0	4.6	30.0
NEtFOSE		82.8	70.0	130.0	16.8	30.0
NEtFOSAM		96.8	70.0	130.0	3.1	30.0

Matrix Spike (MS)

Lab Sample ID: AK230920.5341801M, Parent Sample ID: S53418.01

Run in Batch: AK230920, Run Date: 09/20/2023 15:13, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1.97

Analyte	Flags	% Rec	LCL	UCL
PFBA		94.4	70.0	130.0
PFPeA		84.7	70.0	130.0
4:2 FTSA		89.3	70.0	130.0
PFHxA		99.5	70.0	130.0
PFBS		101.5	70.0	130.0
PFHpA		82.2	70.0	130.0
PFPeS		95.4	70.0	130.0
6:2 FTSA		93.4	70.0	130.0
PFOA		91.4	70.0	130.0
PFHxS		88.3	70.0	130.0
PFNA		93.4	70.0	130.0
8:2 FTSA		90.4	70.0	130.0
PFHpS		77.2	70.0	130.0
PFDA		74.1	70.0	130.0
N-MeFOSAA		90.4	70.0	130.0
EtFOSAA		71.1	70.0	130.0
PFOS		80.2	70.0	130.0
PFUnDA		82.2	70.0	130.0
PFNS		85.3	70.0	130.0
PFDoDA		87.3	70.0	130.0
PFDS		92.4	70.0	130.0
PFTTrDA		101.5	70.0	130.0
FOSA		80.2	70.0	130.0
PFTeDA		91.4	70.0	130.0
11CL-PF3OUdS		94.4	70.0	130.0
9CL-PF3ONS		82.2	70.0	130.0
ADONA		82.2	70.0	130.0
HFPO-DA		83.2	70.0	130.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: PF230920W1 (continued)

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

Duplicate (DUP)

Lab Sample ID: AK230920.5341802D, Parent Sample ID: S53418.02

Run in Batch: AK230920, Run Date: 09/20/2023 15:52, Prep Date: 09/20/2023, Matrix: WW, Dilution: 1.98

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA	J*	48.9	30.0
4:2 FTSA		NC	30.0
PFHxA		NC	30.0
PFBS		NC	30.0
PFFHpA		NC	30.0
PFPeS		NC	30.0
6:2 FTSA		NC	30.0
PFOA	*	200.0	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
PFFHpS		NC	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0
EtFOSAA		NC	30.0
PFOS		7.4	30.0
PFOS-LN		20.6	30.0
PFOS-BR		9.9	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTTrDA		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

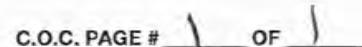


TABLE 2
SOIL ANALYTICAL DATA (Metals and Detected VOCs)
RACER - Flint West #12990

Sample ID:				SB-122	SB-123	SB124-4	SB124-10	SB124-21	SB125-4	SB125-13	SB125-19	SB126-4	SB126-11	SB126-15	SB127-4	SB127-8	SB127-15	SB127-20	SB128-3	SB128-7	SB128-10
Date Collected:				4/30/2013	4/30/2013	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14	4/21/14
Depth:				15-16	5-6	4	10	21	4	13	19	4	11	15	4	8	15	20	3	7	10
ANALYTE (ug/kg)		DW	GSI																		
Arsenic	5,800	5,800	D&G=B			1,130	1,100	1,830	570	1,440	1,410	1,300	1,250	1,180	410	1,630	2,060	1,780	500	1,550	1,150
Chromium	18,000	18,000	D&G=B			1,220	1,460	3,350	2,050	3,260	4,240	1,220	2,920	2,870	1,980	2,560	4,540	610	1,460	2,860	5,890
Copper	5,800,000	120,000	GX			1,700	2,300	8,200	7,400	6,100	11,400	3,400	3,100	5,600	1,600	3,000	5,800	1,200	3,900	5,600	5,300
Lead	700,000	5,000,000	GX			2,510	3,120	7,580	13,800	5,100	8,590	2,280	3,790	5,470	4,710	5,740	7,330	950	6,250	11,400	6,950
Selenium	4,000	410	G=B					210			210			160							
Zinc	2,400,000	2,600,000	G=B			4,600	5,100	19,000	11,400	12,200	20,800	5,900	8,600	14,700	3,700	10,300	20,300	2,400	6,000	13,200	9,900
ANALYTE (ug/kg)		DW	GSI																		
2 Butanone (MEK)	260,000	44,000				45	71	56		165	79	82	150	75	46	66	148	126	44	123	127
Acetone	15,000	NC																			
Vinyl Chloride	40	260									23										
1,1-Dichloroethene	140	2,600																			
trans-1,2-Dichloroethene	2,000	30,000																			
1,1-Dichloroethane	18,000	15,000																			
Methylene chloride	5	1,500		100	18																
cis-1,2-Dichloroethene	1,400	12,000		1,600				58			350										
Tetrahydrofuran	1,900	220,000				170	190	190	150	180	180	140	190	210	190	190	170	190	150	150	140
Chloroform	1,600	7,000									16										
1,1,1-Trichloroethane	4,000	1,800									11										
Benzene	100	4,000																			
Trichloroethene	100	4,000		14,400	41			1,420			3,650										
Tetrachloroethene	100	1,200			18																
Toluene	16,000	5,400				11															
Ethylbenzene	1,500	360																			
Total Xylenes	5,600	820			39																
Isopropylbenzene	91,000	3,200			65															16	
n-Propylbenzene	1,600	NC																			
1,2 -Dichlorobenzene	14,000	280																		21	
1,2,4-Trimethylbenzene	2,100	570			37																
1,2,3-Trimethylbenzene	NC	NC			42.1															13.5	
1,3,5-Trimethylbenzene	72	45			29																
p-isopropyltoluene	NC	NC			93																
1,2,3-Trichlorobenzene	NC	NC																			
Naphthalene	35,000	730			210	10.8			14.4	17		13.7			12.9		14.3			345.7	46.9
2-Methylnaphthalene	57,000	4,200			345	10.2			14	39		13	19				30		10	820	46

NOTES:

	Blank cells indicate no detectable concentration
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
X	Compound also found in associated sample
NC	Insufficient data to develop criterion
GX	Interface Criteria - calculated based on 257ppm total hardness

TABLE 2
SOIL ANALYTICAL DATA (Metals and Detected VOCs)
RACER - Flint West #12990

Sample ID:				SB129-4	SB129-8	SB129-18	SB130-4	SB130-10	SB130-18	SB131-4	SB131-10	SB131-18	SB132-12	SB132-15	SB133-17	SB133-19	SB133-20	SB134-18	SB134-20	SB135-19	SB135-21
Date Collected:				4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	7/10/14	7/10/14	7/10/14	7/10/14	7/10/14	12/22/14	12/22/14	12/22/14	12/22/14
Depth:				4	8	18	4	10	18	4	10	18	12	15	17	19	20	18	20	19	21
ANALYTE (ug/kg)		DW	GSI																		
Arsenic	5,800	5,800	D&G=B	2,790	1,740	1,460	3,580	1,700	1,980	1,630	1,300	2,080						380	1,690	1,900	2,080
Chromium	18,000	18,000	D&G=B	2,550	4,080	4,730	3,090	1,150	2,770	1,640	2,800	2,620									
Copper	5,800,000	120,000	GX	13,000	3,600	7,200	17,700	1,700	9,800	8,500	3,100	7,900						4,500	3,000	4,000	3,900
Lead	700,000	5,000,000	GX	104,000	6,100	7,420	123,000	2,110	6,510	36,400	4,740	6,020						5,690	3,380	2,850	2,890
Selenium	4,000	410	G=B	130		150	140														
Zinc	2,400,000	2,600,000	G=B	21,300	13,100	19,200	51,800	5,800	18,000	16,800	13,600	18,600						5,900	19,500	17,500	15,300
ANALYTE (ug/kg)		DW	GSI																		
2 Butanone (MEK)	260,000	44,000		40	53	82	69	68	70	79	65	164									
Acetone	15,000	NC																			
Vinyl Chloride	40	260							73			90	180	89	46					14	
1,1-Dichloroethene	140	2,600							34			18									
trans-1,2-Dichloroethene	2,000	30,000							100			62			18					11	
1,1-Dichloroethane	18,000	15,000							69			35			13						
Methylene chloride	5	1,500																			
cis-1,2-Dichloroethene	1,400	12,000				300			6,380			2,820	2,200	1,200	1,990	530	270		120	1,100	800
Tetrahydrofuran	1,900	220,000		150	180	180	180	170	160	150	180	160	1,500	300	150	160	117				
Chloroform	1,600	7,000																			
1,1,1-Trichloroethane	4,000	1,800				33.40										25	35	18			8.7
Benzene	100	4,000							36												
Trichloroethene	100	4,000				6,170			6,080	28		12,160	29,500	13,700	11,680	10,860	7,520		2,040	7,890	6,540
Tetrachloroethene	100	1,200														17					
Toluene	16,000	5,400		13		19	31			45								70			
Ethylbenzene	1,500	360					15											16			
Total Xylenes	5,600	820		21			92			91								85			
Isopropylbenzene	91,000	3,200					13														
n-Propylbenzene	1,600	NC					16											14			
1,2 -Dichlorobenzene	14,000	280																			
1,2,4-Trimethylbenzene	2,100	570		14			24			22											
1,2,3-Trimethylbenzene	NC	NC					13.4			11.8											
1,3,5-Trimethylbenzene	72	45																			
p-isopropyltoluene	NC	NC																			
1,2,3-Trichlorobenzene	NC	NC																			
Naphthalene	35,000	730		39.5	12.5		51.5			100.3								36.6			
2-Methylnaphthalene	57,000	4,200		43			54.1			71.8					15	12	9.2	29			

NOTES:	
	Blank cells indicate no detectable concentration
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
X	Compound also found in associated groundwater
NC	Insufficient data to develop criterion
GX	Interface Criteria - calculated based on 257ppm total hardness

TABLE 2
SOIL ANALYTICAL DATA (Metals and Detected VOCs)
RACER - Flint West #12990

Sample ID:				SB136-19	SB136-21	SB137-18	SB137-20.5	SB138-15	SB138-18	SB139-16	DUP-1	SB139-18	SB140-16	SB140-19	SB141-16	SB141-18	SB141-19
Date Collected:				12/22/14	12/22/14	12/22/14	12/22/14	1/16/2019	1/16/2019	1/16/2019	1/16/2019	1/16/2019	1/16/2019	1/16/2019	1/16/2019	1/16/2019	1/16/2019
Depth:				19	21	18	20.5	15	18	16	(SB139-16)	18	16	19	16	18	19
ANALYTE (ug/kg)	DW	GSI															
Arsenic	5,800	5,800	D&G=B	1,870	3,350	1,660	3,040										
Chromium	18,000	18,000	D&G=B														
Copper	5,800,000	120,000	GX	4,600	4,300	4,200	4,500										
Lead	700,000	5,000,000	GX	3,060	3,740	2,810	3,240										
Selenium	4,000	410	G=B														
Zinc	2,400,000	2,600,000	G=B	13,600	18,800	13,500	27,300										
ANALYTE (ug/kg)	DW	GSI															
2 Butanone (MEK)	260,000	44,000											2,300				
Acetone	15,000	NC										430					360
Vinyl Chloride	40	260					56					42					
1,1-Dichloroethene	140	2,600										63					
trans-1,2-Dichloroethene	2,000	30,000				14			13			200					
1,1-Dichloroethane	18,000	15,000										90					
Methylene chloride	5	1,500						22	25.7	230	210	32	260	30	27	25	26
cis-1,2-Dichloroethene	1,400	12,000		340	450	670	290	470	550	1,800	1000	8,850	3,500	150	15	2,900	860
Tetrahydrofuran	1,900	220,000						174	121	1,800	1750	180	1,800	155	161	170	155
Chloroform	1,600	7,000															
1,1,1-Trichloroethane	4,000	1,800		12.5		20.5			7.4					14.8			
Benzene	100	4,000										20					
Trichloroethene	100	4,000		8,760	9,390	4,250		2,880	2,300	21,000	16,300	3,440	13,100	2,870	180	6,150	3,370
Tetrachloroethene	100	1,200												11.9			
Toluene	16,000	5,400															
Ethylbenzene	1,500	360															
Total Xylenes	5,600	820															
Isopropylbenzene	91,000	3,200															
n-Propylbenzene	1,600	NC															
1,2 -Dichlorobenzene	14,000	280								136							
1,2,4-Trimethylbenzene	2,100	570															
1,2,3-Trimethylbenzene	NC	NC															
1,3,5-Trimethylbenzene	72	45															
p-isopropyltoluene	NC	NC															
1,2,3-Trichlorobenzene	NC	NC											130				
Naphthalene	35,000	730															
2-Methylnaphthalene	57,000	4,200															

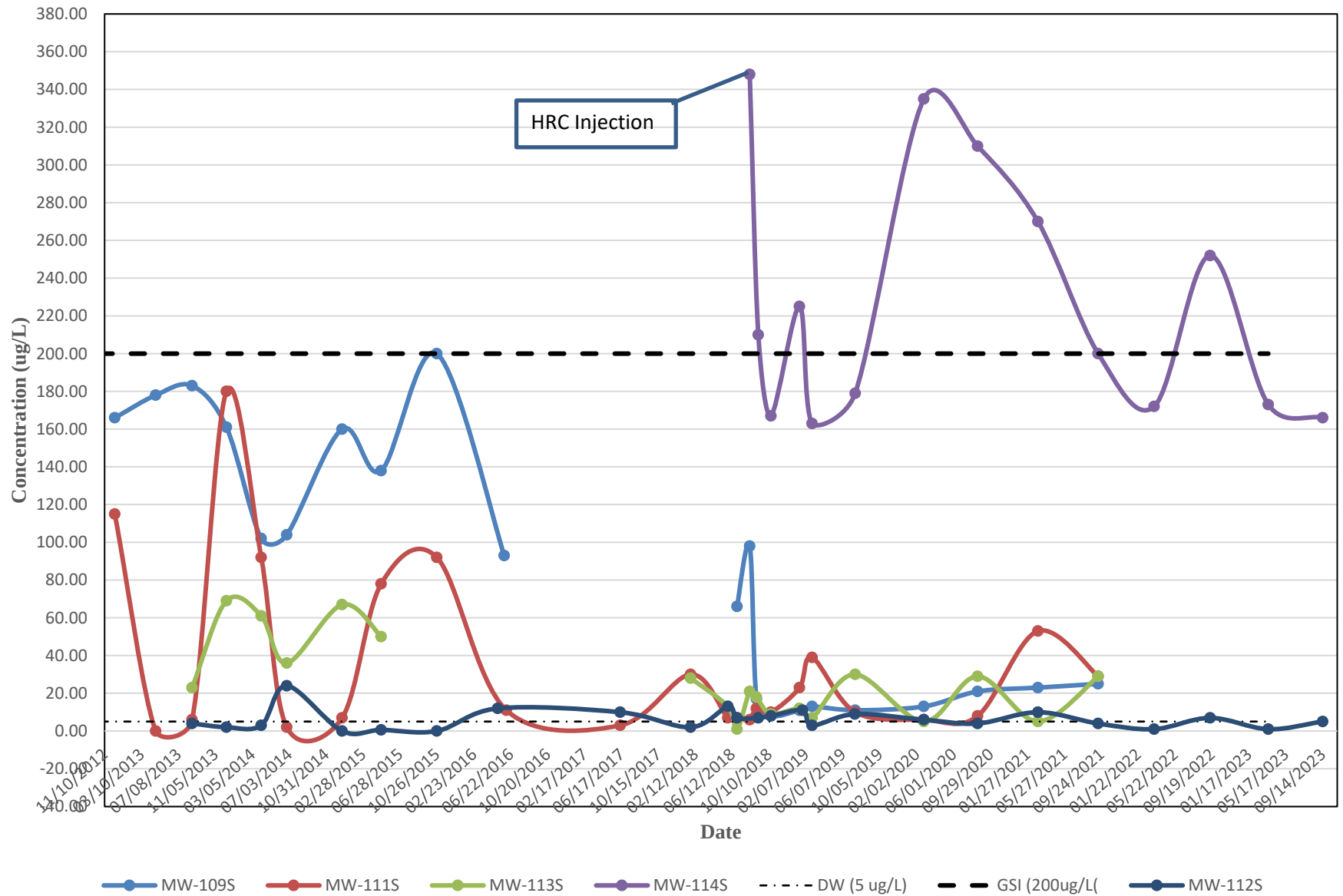
NOTES:	
	Blank cells indicate no detectable concentration
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
X	Compound also found in associated groundwater
NC	Insufficient data to develop criterion
GX	Interface Criteria - calculated based on 257ppm total hardness



Applied *Eco*Systems, Inc.

Environmental Management, Consulting & Field Services

TCE in MW-109S, MW-111S, MW-112S, MW-113S, MW-114S (downgradient wells)





Applied *Eco*Systems, Inc.

Environmental Management, Consulting & Field Services

Low-Flow Test Report:

Test Date / Time: 9/14/2023 12:14:02 PM
Project: Low-Flow Test 1 (4)
Operator Name:

Location Name: MW-103S	Flow Cell Volume: 130 ml	Instrument Used: Aqua TROLL 500 Serial Number: 821578
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10 %	+/- 5
9/14/2023 12:14 PM	00:00	7.58 pH	21.71 °C	0.06 µS/cm	7.77 mg/L	16.16 NTU	-62.9 mV	
9/14/2023 12:17 PM	03:00	7.53 pH	20.92 °C	0.06 µS/cm	7.89 mg/L	13.95 NTU	-95.3 mV	
9/14/2023 12:20 PM	06:00	7.45 pH	20.55 °C	0.06 µS/cm	7.92 mg/L	12.28 NTU	-105.5 mV	
9/14/2023 12:23 PM	09:00	7.40 pH	20.25 °C	0.00 µS/cm	7.91 mg/L	11.03 NTU	-106.8 mV	
9/14/2023 12:26 PM	12:00	7.37 pH	19.96 °C	0.00 µS/cm	7.91 mg/L	9.44 NTU	-104.7 mV	
9/14/2023 12:31 PM	17:43	7.55 pH	20.23 °C	0.00 µS/cm	7.74 mg/L	7.90 NTU	-98.7 mV	
9/14/2023 12:34 PM	20:43	7.49 pH	20.28 °C	0.00 µS/cm	7.58 mg/L	7.21 NTU	-95.4 mV	
9/14/2023 12:37 PM	23:43	7.45 pH	20.25 °C	0.00 µS/cm	7.53 mg/L	6.47 NTU	-93.0 mV	
9/14/2023 12:40 PM	26:43	7.41 pH	20.20 °C	0.00 µS/cm	7.51 mg/L	5.79 NTU	-90.6 mV	
9/14/2023 12:43 PM	29:43	7.42 pH	20.20 °C	0.00 µS/cm	7.46 mg/L	5.21 NTU	-88.4 mV	

Samples

Sample ID:	Description:
MW-103S	Also MS/MDS

Low-Flow Test Report:

Test Date / Time: 9/14/2023 9:21:49 AM
Project:
Operator Name:

Location Name: MW-106SR Latitude: -34.11332101685 Longitude: -10.1953104883432 Well Diameter: 2 in Casing Type: PVC	Flow Cell Volume: 130 ml	Instrument Used: Aqua TROLL 500 Serial Number: 821578
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10 %	+/- 5
9/14/2023 9:21 AM	00:00	8.36 pH	16.75 °C	0.07 µS/cm	9.61 mg/L	17.08 NTU	90.8 mV	
9/14/2023 9:24 AM	03:00	8.21 pH	16.14 °C	0.07 µS/cm	9.58 mg/L	17.92 NTU	110.5 mV	
9/14/2023 9:27 AM	06:00	8.12 pH	15.97 °C	0.07 µS/cm	9.56 mg/L	19.68 NTU	124.9 mV	
9/14/2023 9:30 AM	09:00	8.10 pH	15.92 °C	0.07 µS/cm	9.79 mg/L	20.44 NTU	136.5 mV	
9/14/2023 9:33 AM	12:00	8.05 pH	16.17 °C	0.07 µS/cm	9.44 mg/L	21.34 NTU	145.7 mV	
9/14/2023 9:36 AM	15:00	8.04 pH	16.35 °C	0.07 µS/cm	9.02 mg/L	21.45 NTU	154.2 mV	

Samples

Sample ID:	Description:
MW-106SR	Ran dry at 9:38am

Low-Flow Test Report:

Test Date / Time: 9/14/2023 1:20:02 PM
Project: Low-Flow Test 1 (3)
Operator Name:

Location Name: Mw-108s Well Diameter: 2 cm Casing Type: Pvc	Estimated Total Volume Pumped: 90 ml Flow Cell Volume: 130 ml Final Flow Rate: 3 ml/min	Instrument Used: Aqua TROLL 500 Serial Number: 821578
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Flow
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10	+/- 10	
9/14/2023 1:20 PM	00:00	6.96 pH	24.16 °C	0.06 µS/cm	8.11 mg/L	1.18 NTU	69.1 mV	3.00 ml/min
9/14/2023 1:23 PM	03:00	6.70 pH	21.90 °C	0.06 µS/cm	8.45 mg/L	0.89 NTU	99.4 mV	3.00 ml/min
9/14/2023 1:26 PM	06:00	6.59 pH	20.85 °C	0.06 µS/cm	8.57 mg/L	0.58 NTU	111.9 mV	3.00 ml/min
9/14/2023 1:29 PM	09:00	6.68 pH	20.21 °C	0.06 µS/cm	8.65 mg/L	0.67 NTU	109.6 mV	3.00 ml/min
9/14/2023 1:32 PM	12:00	6.52 pH	19.72 °C	0.06 µS/cm	8.70 mg/L	0.46 NTU	99.3 mV	3.00 ml/min
9/14/2023 1:35 PM	15:00	6.59 pH	19.35 °C	0.06 µS/cm	8.76 mg/L	0.36 NTU	99.2 mV	3.00 ml/min
9/14/2023 1:38 PM	18:00	6.48 pH	19.03 °C	0.06 µS/cm	8.82 mg/L	0.32 NTU	104.2 mV	3.00 ml/min
9/14/2023 1:41 PM	21:00	6.73 pH	18.83 °C	0.06 µS/cm	8.85 mg/L	0.50 NTU	110.3 mV	3.00 ml/min
9/14/2023 1:44 PM	24:00	6.64 pH	18.76 °C	0.06 µS/cm	8.84 mg/L	0.62 NTU	118.0 mV	3.00 ml/min
9/14/2023 1:47 PM	27:00	6.75 pH	18.57 °C	0.06 µS/cm	8.86 mg/L	0.59 NTU	119.7 mV	3.00 ml/min
9/14/2023 1:50 PM	30:00	6.67 pH	18.41 °C	0.06 µS/cm	8.89 mg/L	0.22 NTU	126.3 mV	3.00 ml/min

Samples

Sample ID:	Description:
Mw-108s-230914	

Low-Flow Test Report:

Test Date / Time: 9/14/2023 3:56:47 PM
Project: Low-Flow Test 1 (7)
Operator Name:

Location Name: MW-110S	Flow Cell Volume: 130 ml	Instrument Used: Aqua TROLL 500 Serial Number: 821578
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10 %	+/- 5
9/14/2023 3:56 PM	00:00	5.99 pH	24.38 °C	0.06 µS/cm	7.76 mg/L	1.63 NTU	-82.6 mV	
9/14/2023 3:59 PM	03:00	6.26 pH	21.70 °C	0.06 µS/cm	8.16 mg/L	1.15 NTU	-84.7 mV	
9/14/2023 4:02 PM	06:00	6.18 pH	20.81 °C	0.06 µS/cm	8.21 mg/L	0.94 NTU	-88.9 mV	
9/14/2023 4:05 PM	09:00	6.08 pH	20.44 °C	0.06 µS/cm	8.22 mg/L	0.76 NTU	-95.0 mV	
9/14/2023 4:08 PM	12:00	6.17 pH	20.08 °C	0.06 µS/cm	8.22 mg/L	0.71 NTU	-102.4 mV	
9/14/2023 4:11 PM	15:00	7.38 pH	19.60 °C	0.06 µS/cm	8.24 mg/L	0.80 NTU	-121.3 mV	
9/14/2023 4:14 PM	18:00	7.35 pH	19.57 °C	0.06 µS/cm	8.17 mg/L	7.73 NTU	-125.4 mV	
9/14/2023 4:17 PM	21:00	7.19 pH	19.93 °C	0.00 µS/cm	7.94 mg/L	5.99 NTU	-126.1 mV	
9/14/2023 4:20 PM	24:00	7.24 pH	20.02 °C	0.00 µS/cm	7.77 mg/L	6.58 NTU	-131.3 mV	
9/14/2023 4:23 PM	27:00	7.33 pH	20.05 °C	0.00 µS/cm	7.65 mg/L	4.45 NTU	-139.6 mV	
9/14/2023 4:26 PM	30:00	7.31 pH	20.01 °C	0.00 µS/cm	7.56 mg/L	4.01 NTU	-144.0 mV	

Samples

Sample ID:	Description:
Me-110S try 2	

Low-Flow Test Report:

Test Date / Time: 9/14/2023 10:15:00 AM
Project: Low-Flow Test 1 (2)
Operator Name:

Location Name: MW-112S	Flow Cell Volume: 130 ml	Instrument Used: Aqua TROLL 500 Serial Number: 821578
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10 %	+/- 5
9/14/2023 10:15 AM	00:00	7.02 pH	22.74 °C	0.06 µS/cm	7.97 mg/L	22.33 NTU	82.3 mV	
9/14/2023 10:18 AM	03:00	6.85 pH	19.57 °C	0.06 µS/cm	8.26 mg/L	20.36 NTU	22.8 mV	
9/14/2023 10:21 AM	06:00	6.79 pH	19.13 °C	0.06 µS/cm	8.29 mg/L	19.91 NTU	-31.3 mV	
9/14/2023 10:24 AM	09:00	6.83 pH	19.19 °C	0.06 µS/cm	8.23 mg/L	20.77 NTU	-51.2 mV	
9/14/2023 10:27 AM	12:00	6.80 pH	19.19 °C	0.06 µS/cm	8.20 mg/L	19.94 NTU	-59.2 mV	
9/14/2023 10:30 AM	15:00	6.81 pH	19.21 °C	0.06 µS/cm	8.17 mg/L	20.79 NTU	-62.9 mV	
9/14/2023 10:33 AM	18:00	6.82 pH	19.27 °C	0.06 µS/cm	8.12 mg/L	19.76 NTU	-67.4 mV	
9/14/2023 10:36 AM	21:00	6.82 pH	19.33 °C	0.06 µS/cm	8.07 mg/L	19.09 NTU	-70.7 mV	
9/14/2023 10:39 AM	24:00	6.79 pH	19.36 °C	0.06 µS/cm	8.03 mg/L	17.93 NTU	-73.2 mV	
9/14/2023 10:42 AM	27:00	6.81 pH	19.40 °C	0.06 µS/cm	8.01 mg/L	16.20 NTU	-77.1 mV	
9/14/2023 10:45 AM	30:00	6.80 pH	19.44 °C			15.79 NTU	-80.6 mV	

Samples

Sample ID:	Description:
MW-112S-230914	

Low-Flow Test Report:

Test Date / Time: 9/14/2023 2:22:52 PM
Project: Low-Flow Test 1 (5)
Operator Name:

Location Name: MW-114S	Flow Cell Volume: 130 ml	Instrument Used: Aqua TROLL 500 Serial Number: 821578
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10 %	+/- 5
9/14/2023 2:22 PM	00:00	7.35 pH	25.67 °C	0.05 µS/cm	8.05 mg/L		175.4 mV	
9/14/2023 2:25 PM	03:00	6.82 pH	22.17 °C	0.06 µS/cm	8.57 mg/L		186.8 mV	
9/14/2023 2:28 PM	06:00	6.64 pH	21.28 °C	0.06 µS/cm	8.68 mg/L		165.2 mV	
9/14/2023 2:31 PM	09:00	6.49 pH	20.91 °C	0.06 µS/cm	8.74 mg/L	1.41 NTU	123.2 mV	
9/14/2023 2:34 PM	12:00	6.70 pH	20.68 °C	0.06 µS/cm	8.74 mg/L	1.34 NTU	69.8 mV	
9/14/2023 2:37 PM	15:00	6.54 pH	20.70 °C	0.06 µS/cm	8.64 mg/L	1.51 NTU	41.8 mV	
9/14/2023 2:40 PM	18:00	6.50 pH	20.75 °C	0.06 µS/cm	8.67 mg/L	1.66 NTU	31.6 mV	
9/14/2023 2:43 PM	21:00	6.52 pH	20.91 °C	0.06 µS/cm	8.56 mg/L	1.54 NTU	29.1 mV	
9/14/2023 2:46 PM	24:00	6.48 pH	20.92 °C	0.06 µS/cm	8.55 mg/L	0.86 NTU	30.3 mV	
9/14/2023 2:49 PM	27:00	6.30 pH	20.95 °C	0.06 µS/cm	8.56 mg/L	1.64 NTU	30.2 mV	
9/14/2023 2:52 PM	30:00	6.33 pH	20.91 °C	0.06 µS/cm	8.56 mg/L	1.91 NTU	25.9 mV	

Samples

Sample ID:	Description:
MW-114S	And Dup 1

Low-Flow Test Report:

Test Date / Time: 9/14/2023 11:25:40 AM
Project: Low-Flow Test 1 (3)
Operator Name:

Location Name: MW-117S	Flow Cell Volume: 130 ml	Instrument Used: Aqua TROLL 500 Serial Number: 821578
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water
		+/- 0.1	+/- 3 %	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10 %	+/- 5
9/14/2023 11:25 AM	00:00	6.89 pH	24.46 °C	0.06 µS/cm	7.52 mg/L	8.51 NTU	45.4 mV	
9/14/2023 11:28 AM	03:00	6.83 pH	22.52 °C	0.06 µS/cm	7.82 mg/L	8.96 NTU	41.8 mV	
9/14/2023 11:31 AM	06:00	6.78 pH	21.78 °C	0.06 µS/cm	7.91 mg/L	8.65 NTU	44.2 mV	
9/14/2023 11:34 AM	09:00	6.78 pH	21.44 °C	0.06 µS/cm	7.93 mg/L	8.69 NTU	49.5 mV	
9/14/2023 11:37 AM	12:00	6.79 pH	21.19 °C	0.00 µS/cm	7.98 mg/L	9.08 NTU	54.8 mV	
9/14/2023 11:40 AM	15:00	6.80 pH	21.04 °C	0.00 µS/cm	7.99 mg/L	8.87 NTU	60.2 mV	
9/14/2023 11:43 AM	18:00	6.92 pH	20.82 °C	0.00 µS/cm	7.98 mg/L	8.66 NTU	61.4 mV	
9/14/2023 11:46 AM	21:00	6.90 pH	20.70 °C	0.00 µS/cm	7.99 mg/L	8.74 NTU	62.5 mV	
9/14/2023 11:49 AM	24:00	6.98 pH	20.66 °C	0.00 µS/cm	8.00 mg/L	8.59 NTU	63.7 mV	
9/14/2023 11:52 AM	27:00	6.86 pH	20.62 °C	0.00 µS/cm	8.00 mg/L	8.54 NTU	65.2 mV	
9/14/2023 11:55 AM	30:00	6.94 pH	20.56 °C	0.00 µS/cm	7.99 mg/L	8.40 NTU	66.1 mV	

Samples

Sample ID:	Description:
MW-117S-230914	

