Applied *Eco*Systems, Inc.
Environmental Management, Consulting & Field Services

DATA REPORT
AND PROPOSED ADDITIONAL MONITORING

TO: Brandon Pursel, USEPA
Dave Favero, RACER TRUST
Shaun Shields, EGLE RRD

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

DATE: September 29, 2020

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

CONTENTS:

1.0 INTRODUCTION

Since the previous Data Report (dated April 10, 2020), Applied EcoSystems, Inc. (Æ), monitoring wells installed by RACER on the Site and the adjoining Genesee County Parks (GCP) site to the north were gauged for depth to groundwater. A routine groundwater monitoring event was conducted on August 18 to 19, 2020.

A Site Location Map is included as Figure 1. The Site consists of approximately five 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 Monitoring

- All monitoring wells were gauged for depth to water on August 18, 2020. A Groundwater Contour Map, prepared using the August 18, 2020 groundwater elevation data, is included as Figure 3 in Appendix A. Cross section diagrams, showing soil types, groundwater elevations, and soil and groundwater data, are included in Attachment 1.
- A routine groundwater monitoring event was conducted on August 18 to 19, 2020
- Groundwater samples were collected from all monitoring wells to be analyzed for Volatile Organic Compounds (VOCs), and dissolved and total metals (arsenic, chromium [total], chromium VI, copper, lead, selenium and zinc).
- Groundwater samples were collected from all monitoring wells, except for MW-102S, MW-104S, MW-105S, and MW-108S to be analyzed for 28 Per- & polyfluoroalkyl substances (PFAS).

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

3.0 MONITORING RESULTS

Groundwater (Semiannual Sampling)

Comparison of groundwater data (August 2020) to current EGLE Generic Residential and Non-Residential Cleanup Criteria (GR/NCC) dated December 30, 2013/August 3, 2020 (the August 3, 2020 date represents the date of some revised criteria) and PFAS drinking water Maximum Contaminant Levels (MCLs) dated August 3, 2020 indicates the following:

Metals: Select metals were detected above drinking water and groundwater to surface water (GSI) criteria as shown in the table below. The metals concentrations are consistent with expected regional conditions, do not appear to represent a plume, and are believed to generally be naturally occurring. Although EGLE has published state-wide and regional "background" concentrations for soils, there are no such values published for groundwater. The concentrations are generally consistent with concentrations encountered by Applied EcoSystems at other uncontaminated sites in the Flint area. Total metals results are generally lower than previous sampling events. The dissolved metals concentrations are considered to be more representative of Site conditions 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-105S	Dissolved Selenium	50	**5**	**9**
MW-109S	Dissolved Arsenic	**10**	**10**	**16**
MW-112S	Dissolved Arsenic	**10**	**10**	**18**
MW-114S	Dissolved Arsenic	**10**	**10**	**20**

- All results are expressed in µg/L.
- Criteria in **red** indicate an exceedance for that pathway.

VOCs: Exceedances were present as follows:

Table 2.0 – VOCs Exceedances in Groundwater

Well ID	VOC	Drinking Water Criterion	GSI Criterion	Result
MW-100S	Trichloroethene	5	200	**10**
MW-105S	Tetrachloroethane	5	60	**55**
MW-109S	Vinyl Chloride	2	13	**11**
MW-109S	Trichloroethene	5	200	**21**
MW-111S	Trichloroethene	5	200	**8**
MW-112S	Vinyl Chloride	2	13	**6**
MW-113S	Trichloroethene	5	200	**30**
MW-114S	Vinyl Chloride	2	13	**10**
MW-114S	Methylene chloride	5	1,500	**10.2**
MW-114S	cis-1,2-Dichloroethene	70	620	**130**
MW-114S	Trichloroethene	5	200	**310**

- All results are expressed in ug/L.
- Criteria in **red** indicate an exceedance for that pathway.

Samples from monitoring wells MW-100S, MW-101S, MW-103S, MW-106SR, MW-107S, MW-109S, MW-110S, MW-111S, MW-112S, MW-113S, and MW-114S were analyzed for PFAS during this sampling event. Several PFAS compounds were detected. The concentrations were compared to EGLE GR/NCC (for Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonic acid (PFOS)) or EGLE MCLs for five other PFAS compounds. Perfluorooctanoic acid (PFOA) exceeded the drinking water criterion (8 ng/L) in MW-106S (11 ng/L), only. Perfluorooctane sulfonic acid (PFOS) exceeded drinking water criterion (16 ng/L) in MW-100S, MW-101S, MW-103S, MW-107S, MW-109S, MW-111S, MW-112S, MW-113S, and MW-114S. These results are similar to the previous PFAS results for the groundwater samples collected in February 2020.

A table of all groundwater sample analytical results for all groundwater samples collected on behalf of RACER is included as Attachment 2. Sample analytical results for the August 2020 sampling events are included as Attachment 3. Figure 4 illustrates the GSI and drinking water exceedances in groundwater identified in groundwater samples collected from 2017 through 2020. This date range includes sampling events from approximately one year before the July 2018 pilot test HRC injections, and all sampling events after. Figure 6 includes data boxes and exceedances for PFAS results.

Note that elevated tetrachloroethene levels have been consistently detected in one up gradient well, MW-105S, since April 2012, and trichloroethene (TCE) has also consistently 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.

While groundwater monitoring results have shown a general downward trend in concentrations of TCE Site-wide over time, TCE concentrations in MW-114S and MW-109S dropped substantially after HRC injection. This is likely due to the location of these two wells, which are expected to have been most affected by the HRC injection due to likely higher volumes of HRC reaching those wells in the short term, as well as generation of anerobic dechlorination conditions. MW-113S exhibited minor fluctuations in TCE concentrations, likely due to the greater distance from the HRC injection locations. The concentration of TCE in MW-114S has since rebounded. The limited variability of TCE concentrations in MW-111S is likely due to limited injection of HRC upgradient from this well relative to the other wells, as upgradient anerobic dechlorination conditions were not established (because areas upgradient were not subjected to HRC injection).

4.0 ADDITIONAL MONITORING AND INVESTIGATION

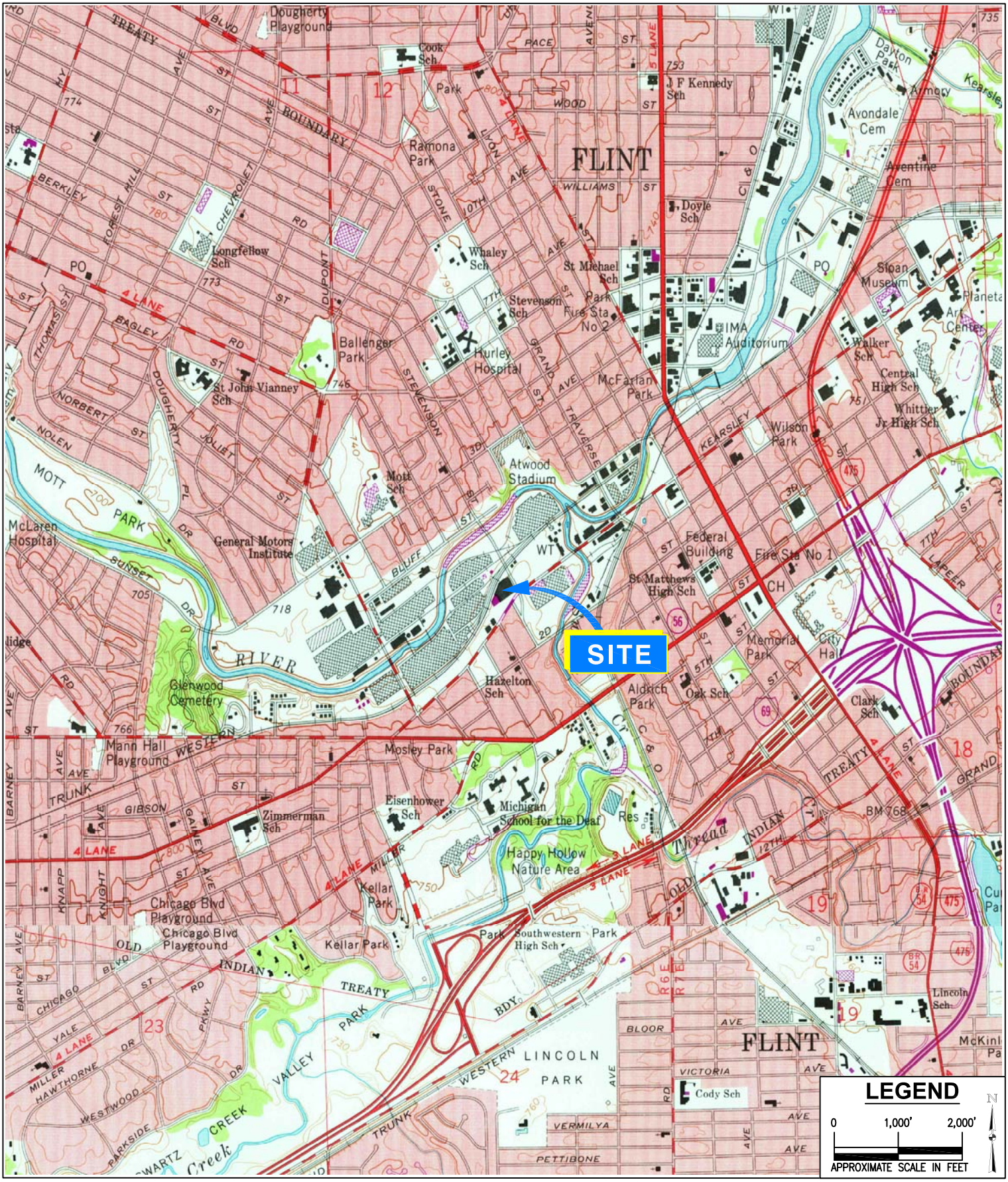
An additional semi-annual monitoring event will be planned for 2021 and additional characterization of PFAS will be proposed.

5.0 SCHEDULE

The first 2021 semi-annual monitoring event will be scheduled in February or March 2021 unless USEPA agrees to altering that schedule based upon USEPA's progress completing a Statement of Basis, Final Decision and review of the full scale in-situ remediation work plan.

In October 2020, a scope of work to further characterize PFAS will be prepared and submitted to the USEPA.

APPENDIX A: FIGURES



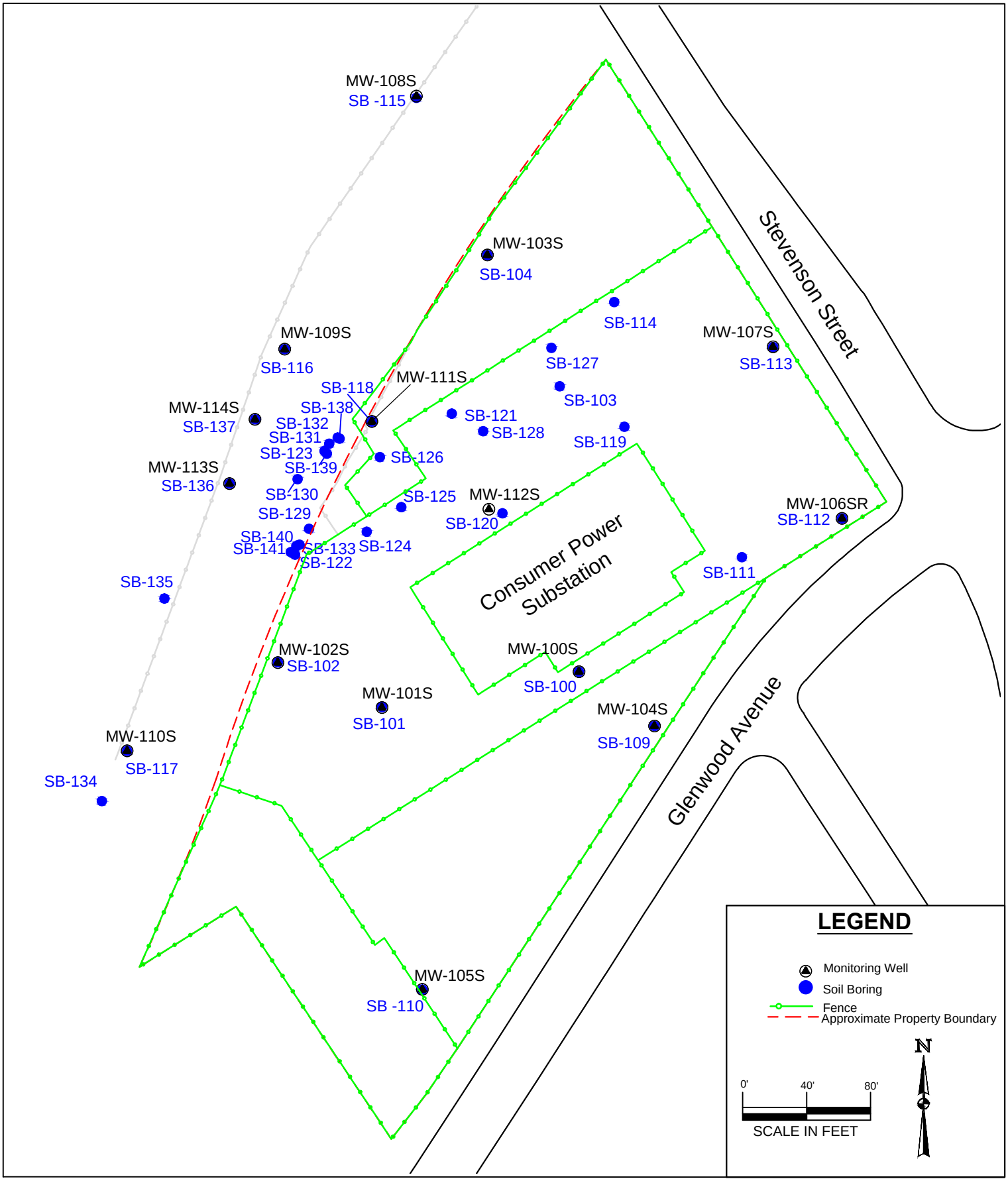
Applied EcoSystems, Inc.
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526

Site Location Map

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

SOURCE: USGS FLINT SOUTH QUADRANGLE (PROVISIONAL EDITION 1975)

DRAWING DATE:	CHECKED BY:
04/06/2020	MDS
PROJECT:	**FIGURE:**
11-4317-102	1

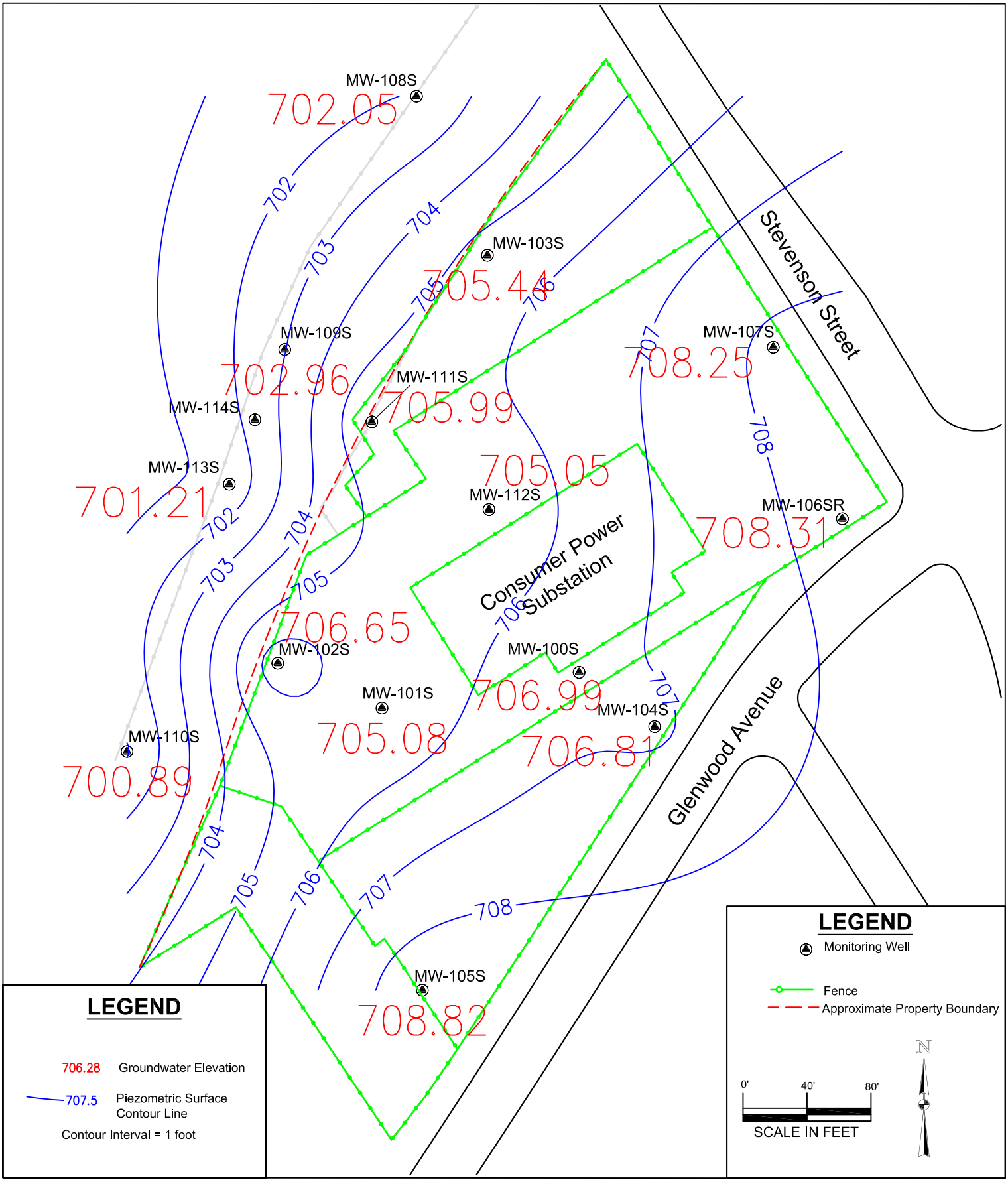


Applied EcoSystems, Inc.
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526

Soil Boring and Well Location Map

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

DATE:	CHECKED BY:
02/25/2019	MDS
PROJECT:	**FIGURE:**
11-4317-102	2

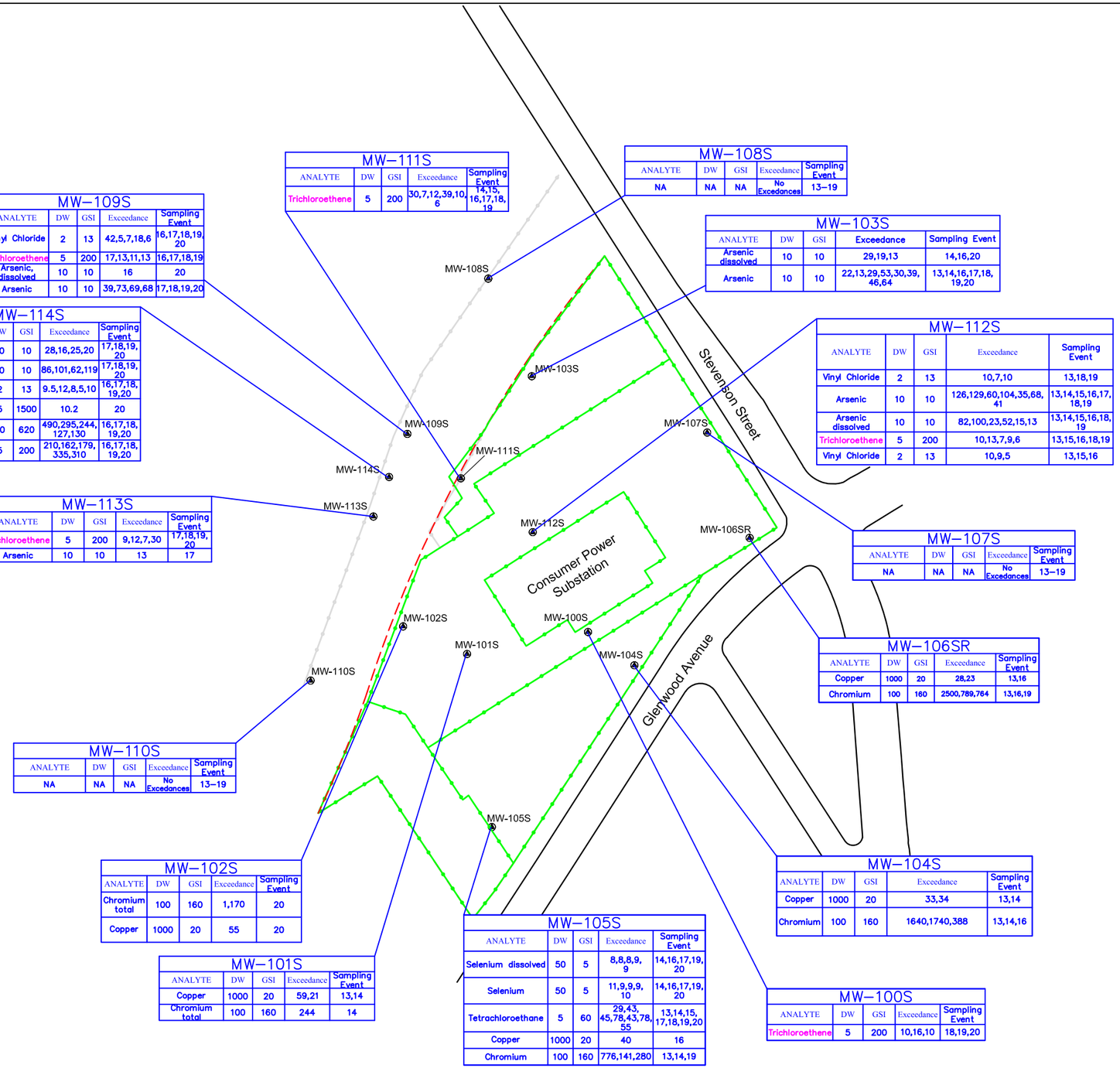


Applied EcoSystems, Inc.
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526

Groundwater Contour Map (August 18, 2020)

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

DATE:	CHECKED BY:
09/21/2020	MDS
PROJECT:	FIGURE:
11-4317-102	3



MW–109S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Vinyl Chloride	2	13	42,5,7,18,6	16,17,18,19,20
Trichloroethene	5	200	17,13,11,13	16,17,18,19
Arsenic, dissolved	10	10	16	20
Arsenic	10	10	39,73,69,68	17,18,19,20

MW–111S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Trichloroethene	5	200	30,7,12,39,10,6	14,15,16,17,18,19

MW–108S

ANALYTE	DW	GSI	Exceedance	Sampling Event
NA	NA	NA	No Exceedances	13–19

MW–103S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic dissolved	10	10	29,19,13	14,16,20
Arsenic	10	10	22,13,29,53,30,39,46,64	13,14,16,17,18,19,20

MW–114S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic, dissolved	10	10	28,16,25,20	17,18,19,20
Arsenic	10	10	86,101,62,119	17,18,19,20
Vinyl Chloride	2	13	9.5,12,8,5,10	16,17,18,19,20
Methylene Chloride	5	1500	10.2	20
cis–1,1–Dichloroethene	70	620	490,295,244,127,130	16,17,18,19,20
Trichloroethene	5	200	210,162,179,335,310	16,17,18,19,20

MW–112S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Vinyl Chloride	2	13	10,7,10	13,18,19
Arsenic	10	10	126,129,60,104,35,68,41	13,14,15,16,17,18,19
Arsenic dissolved	10	10	82,100,23,52,15,13	13,14,15,16,18,19
Trichloroethene	5	200	10,13,7,9,6	13,15,16,18,19
Vinyl Chloride	2	13	10,9,5	13,15,16

MW–113S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Trichloroethene	5	200	9,12,7,30	17,18,19,20
Arsenic	10	10	13	17

MW–107S

ANALYTE	DW	GSI	Exceedance	Sampling Event
NA	NA	NA	No Exceedances	13–19

MW–106SR

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper	1000	20	28,23	13,16
Chromium	100	160	2500,789,764	13,16,19

MW–110S

ANALYTE	DW	GSI	Exceedance	Sampling Event
NA	NA	NA	No Exceedances	13–19

MW–102S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Chromium total	100	160	1,170	20
Copper	1000	20	55	20

MW–101S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper	1000	20	59,21	13,14
Chromium total	100	160	244	14

MW–105S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Selenium dissolved	50	5	8,8,8,9,9	14,16,17,19,20
Selenium	50	5	11,9,9,9,10	14,16,17,19,20
Tetrachloroethane	5	60	29,43,45,78,43,78,55	13,14,15,17,18,19,20
Copper	1000	20	40	16
Chromium	100	160	776,141,280	13,14,19

MW–104S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper	1000	20	33,34	13,14
Chromium	100	160	1640,1740,388	13,14,16

MW–100S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Trichloroethene	5	200	10,16,10	18,19,20

LEGEND

- Monitoring Well
- GSI Ground Water to Surface Water Interface.
- DW Drinking Water Threshold
- GRCC General Residential Cleanup Criteria
- NA – Not applicable
- Laboratory analytical data presented in parts per billion (ug/L)
- Fence

Groundwater Sampling Events*	
June 2017	13
January 2018	14
May 2018	15
Aug/Sept 2018	16
February 2019	17
July 2019	18
February 2020	19
August 2020	20

*–This date range includes sampling events from approximately one year before the July 2018 pilot test HRC injections, and all sampling events after.

N

0' 60' 120'

SCALE IN FEET

DATE: 09/21/2020	CHECKED BY: MDS
PROJECT: 11-4317-102	FIGURE: 4

Summary of Drinking Water and Groundwater to Surface Water Interface Exceedances in Groundwater 2017 to 2020

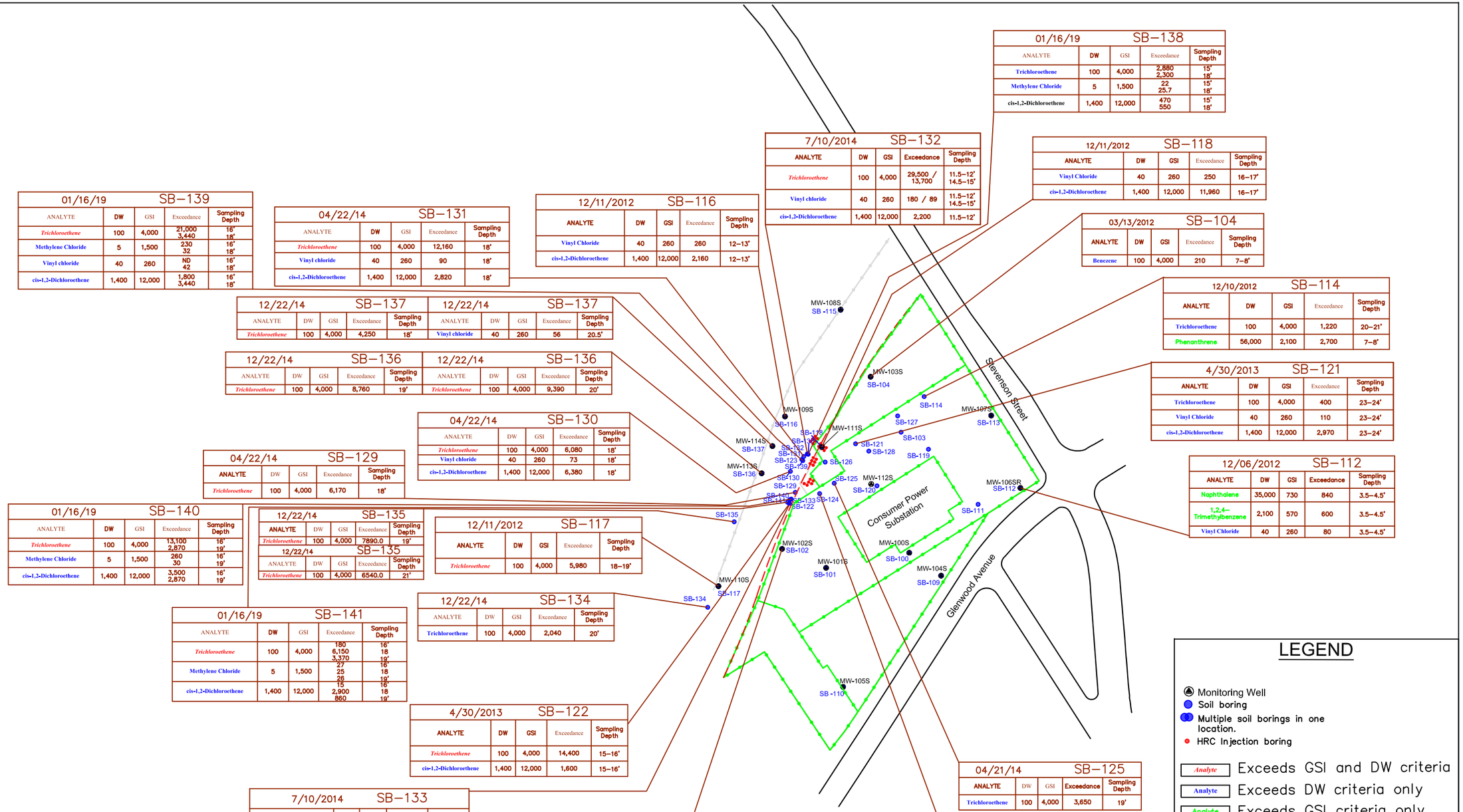
Racer Flint West -12990
Flint West Industrial Land, Flint, Michigan

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

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

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

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



01/16/19 SB–138

ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	2,880 2,300	15' 18'
Methylene Chloride	5	1,500	22 25.7	15' 18'
cis-1,2-Dichloroethene	1,400	12,000	470 550	15' 18'

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
Benezene	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–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'

12/22/14 SB–137

ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	4,250	18'

12/22/14 SB–137

ANALYTE	DW	GSI	Exceedance	Sampling Depth
Vinyl chloride	40	260	56	20.5'

12/22/14 SB–136

ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	8,760	19'

12/22/14 SB–136

ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	9,390	20'

04/22/14 SB–130

ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	6,080	18'
Vinyl chloride	40	260	73	18'
cis-1,2-Dichloroethene	1,400	12,000	6,380	18'

04/22/14 SB–129

ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	6,170	18'

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	27 25 26	16' 18 19'
cis-1,2-Dichloroethene	1,400	12,000	15 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)

Fence

0' 75' 150'

SCALE IN FEET

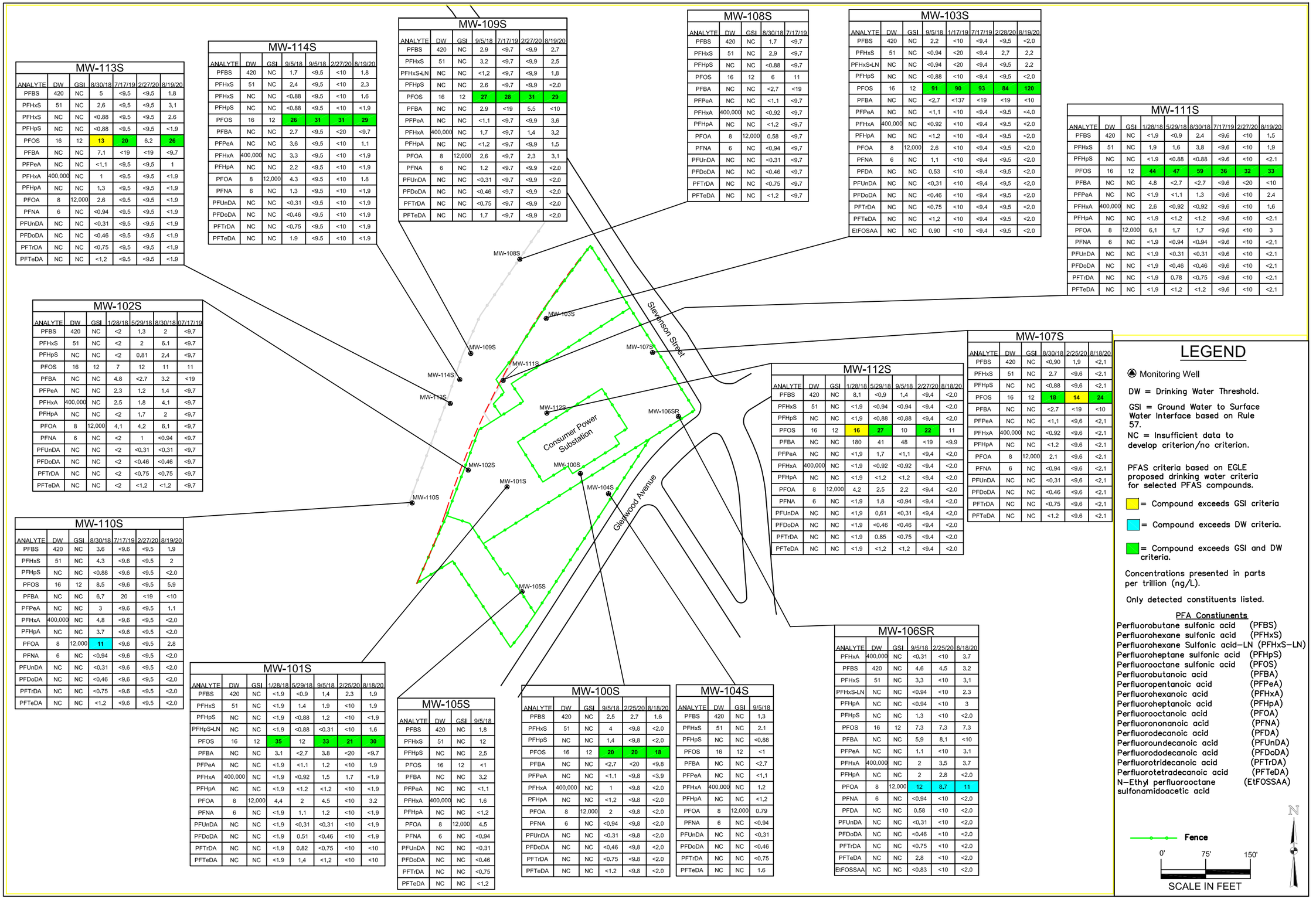
N

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

PFAS Groundwater Analytical Map

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

CHECKED BY:	MDS
FIGURE:	6
DATE:	09/21/2020
PROJECT:	11-4317-102



MW-113S

ANALYTE	DW	GSI	8/30/18	7/17/19	2/27/20	8/19/20
PFBS	420	NC	5	<9,5	<9,5	1.8
PFHxS	51	NC	2,6	<9,5	<9,5	3,1
PFHxS	NC	NC	<0,88	<9,5	<9,5	2.6
PFHpS	NC	NC	<0,88	<9,5	<9,5	<1,9
PFOS	16	12	13	20	6.2	26
PFBA	NC	NC	7.1	<19	<19	<9,7
PFPeA	NC	NC	<1,1	<9,5	<9,5	1
PFHxA	400,000	NC	1	<9,5	<9,5	<1,9
PFHpA	NC	NC	1,3	<9,5	<9,5	<1,9
PFOA	8	12,000	2,6	<9,5	<9,5	<1,9
PFNA	6	NC	<0,94	<9,5	<9,5	<1,9
PFUnDA	NC	NC	<0,31	<9,5	<9,5	<1,9
PFDoDA	NC	NC	<0,46	<9,5	<9,5	<1,9
PFTrDA	NC	NC	<0,75	<9,5	<9,5	<1,9
PFTeDA	NC	NC	<1,2	<9,5	<9,5	<1,9

MW-114S

ANALYTE	DW	GSI	9/5/18	9/5/18	2/27/20	8/19/20
PFBS	420	NC	1.7	<9.5	<10	1.8
PFHxS	51	NC	2,4	<9,5	<10	2,3
PFHxS	NC	NC	<0,88	<9,5	<10	1.6
PFHpS	NC	NC	<0,88	<9,5	<10	<1.9
PFOS	16	12	26	31	31	29
PFBA	NC	NC	2,7	<9,5	<20	<9,7
PFPeA	NC	NC	3,6	<9,5	<10	1.1
PFHxA	400,000	NC	3,3	<9,5	<10	<1.9
PFHpA	NC	NC	2,2	<9,5	<10	<1.9
PFOA	8	12,000	4.3	<9,5	<10	1.8
PFNA	6	NC	1.3	<9,5	<10	<1.9
PFUnDA	NC	NC	<0,31	<9,5	<10	<1.9
PFDoDA	NC	NC	<0,46	<9,5	<10	<1.9
PFTrDA	NC	NC	<0,75	<9,5	<10	<1.9
PFTeDA	NC	NC	1.9	<9.5	<10	<1.9

MW-109S

ANALYTE	DW	GSI	9/5/18	7/17/19	2/27/20	8/19/20
PFBS	420	NC	2.9	<9.7	<9,9	2.7
PFHxS	51	NC	3,2	<9,7	<9,9	2.5
PFHxS-LN	NC	NC	<1,2	<9,7	<9,9	1,8
PFHpS	NC	NC	2,6	<9,7	<9,9	<2,0
PFOS	16	12	27	28	31	29
PFBA	NC	NC	2.9	<19	5.5	<10
PFPeA	NC	NC	<1.1	<9,7	<9,9	3,6
PFHxA	400,000	NC	1,7	<9,7	1,4	3,2
PFHpA	NC	NC	<1,2	<9,7	<9,9	1.5
PFOA	8	12,000	2,6	<9,7	2,3	3,1
PFNA	6	NC	1,2	<9,7	<9,9	<2,0
PFUnDA	NC	NC	<0,31	<9,7	<9,9	<2,0
PFDoDA	NC	NC	<0,46	<9,7	<9,9	<2,0
PFTrDA	NC	NC	<0,75	<9,7	<9,9	<2,0
PFTeDA	NC	NC	1,7	<9,7	<9,9	<2,0

MW-108S

ANALYTE	DW	GSI	8/30/18	7/17/19
PFBS	420	NC	1.7	<9,7
PFHxS	51	NC	2.9	<9,7
PFHpS	NC	NC	<0.88	<9,7
PFOS	16	12	6	11
PFBA	NC	NC	<2,7	<19
PFPeA	NC	NC	<1,1	<9,7
PFHxA	400,000	NC	<0,92	<9,7
PFHpA	NC	NC	<1,2	<9,7
PFOA	8	12,000	0,58	<9,7
PFNA	6	NC	<0,94	<9,7
PFUnDA	NC	NC	<0,31	<9,7
PFDoDA	NC	NC	<0,46	<9,7
PFTrDA	NC	NC	<0,75	<9,7
PFTeDA	NC	NC	<1,2	<9,7

MW-103S

ANALYTE	DW	GSI	9/5/18	1/17/19	7/17/19	2/28/20	8/19/20
PFBS	420	NC	2,2	<10	<9,4	<9,5	<2,0
PFHxS	51	NC	<0,94	<20	<9,4	2,7	2,2
PFHxS-LN	NC	NC	<0,94	<20	<9,4	<9,5	2,2
PFHpS	NC	NC	<0,88	<10	<9,4	<9,5	<2,0
PFOS	16	12	91	90	93	84	120
PFBA	NC	NC	<2,7	<137	<19	<19	<10
PFPeA	NC	NC	<1,1	<10	<9,4	<9,5	<4.0
PFHxA	400,000	NC	<0,92	<10	<9,4	<9,5	<2.0
PFHpA	NC	NC	<1,2	<10	<9,4	<9,5	<2,0
PFOA	8	12,000	2,6	<10	<9,4	<9,5	<2,0
PFNA	6	NC	1,1	<10	<9,4	<9,5	<2,0
PFDA	NC	NC	0.53	<10	<9,4	<9,5	<2,0
PFUnDA	NC	NC	<0,31	<10	<9,4	<9,5	<2,0
PFDoDA	NC	NC	<0,46	<10	<9,4	<9,5	<2,0
PFTrDA	NC	NC	<0,75	<10	<9,4	<9,5	<2,0
PFTeDA	NC	NC	<1,2	<10	<9,4	<9,5	<2,0
EtFOSAA	NC	NC	0,90	<10	<9,4	<9,5	<2,0

MW-111S

ANALYTE	DW	GSI	1/28/18	5/29/18	8/30/18	7/17/19	2/27/20	8/19/20
PFBS	420	NC	<1,9	<0,9	2,4	<9,6	<10	1.5
PFHxS	51	NC	1,9	1,6	3,8	<9,6	<10	1,9
PFHpS	NC	NC	<1,9	<0,88	<0,88	<9,6	<10	<2.1
PFOS	16	12	44	47	59	36	32	33
PFBA	NC	NC	4.8	<2,7	<2,7	<9,6	<20	<10
PFPeA	NC	NC	<1,9	<1,1	1,3	<9,6	<10	2,4
PFHxA	400,000	NC	2,6	<0,92	<0,92	<9,6	<10	1,6
PFHpA	NC	NC	<1,9	<1,2	<1,2	<9,6	<10	<2.1
PFOA	8	12,000	6,1	1,7	1,7	<9,6	<10	3
PFNA	6	NC	<1,9	<0,94	<0,94	<9,6	<10	<2,1
PFUnDA	NC	NC	<1,9	<0,31	<0,31	<9,6	<10	<2.1
PFDoDA	NC	NC	<1,9	<0,46	<0,46	<9,6	<10	<2,1
PFTrDA	NC	NC	<1,9	0.78	<0,75	<9,6	<10	<2,1
PFTeDA	NC	NC	<1,9	<1,2	<1,2	<9,6	<10	<2,1

MW-102S

ANALYTE	DW	GSI	1/28/18	5/29/18	8/30/18	07/17/19
PFBS	420	NC	<2	1.3	2	<9,7
PFHxS	51	NC	<2	2	6.1	<9.7
PFHpS	NC	NC	<2	0.81	2.4	<9,7
PFOS	16	12	7	12	11	11
PFBA	NC	NC	4,8	<2.7	3.2	<19
PFPeA	NC	NC	2,3	1,2	1,4	<9,7
PFHxA	400,000	NC	2,5	1.8	4,1	<9.7
PFHpA	NC	NC	<2	1.7	2	<9,7
PFOA	8	12,000	4,1	4,2	6,1	<9,7
PFNA	6	NC	<2	1	<0.94	<9,7
PFUnDA	NC	NC	<2	<0,31	<0,31	<9,7
PFDoDA	NC	NC	<2	<0.46	<0.46	<9.7
PFTrDA	NC	NC	<2	<0,75	<0.75	<9,7
PFTeDA	NC	NC	<2	<1,2	<1,2	<9,7

MW-112S

ANALYTE	DW	GSI	1/28/18	5/29/18	9/5/18	2/27/20	8/18/20
PFBS	420	NC	8,1	<0,9	1,4	<9,4	<2,0
PFHxS	51	NC	<1,9	<0,94	<0,94	<9,4	<2,0
PFHpS	NC	NC	<1,9	<0,88	<0,88	<9,4	<2,0
PFOS	16	12	16	27	10	22	11
PFBA	NC	NC	180	41	48	<19	<9,9
PFPeA	NC	NC	<1,9	1,7	<1,1	<9,4	<2,0
PFHxA	400,000	NC	<1,9	<0,92	<0,92	<9,4	<2,0
PFHpA	NC	NC	<1,9	<1,2	<1,2	<9,4	<2,0
PFOA	8	12,000	4,2	2,5	2,2	<9,4	<2,0
PFNA	6	NC	<1,9	1,8	<0,94	<9,4	<2,0
PFUnDA	NC	NC	<1,9	0,61	<0,31	<9,4	<2,0
PFDoDA	NC	NC	<1,9	<0,46	<0,46	<9,4	<2,0
PFTrDA	NC	NC	<1,9	0,85	<0,75	<9,4	<2,0
PFTeDA	NC	NC	<1,9	<1,2	<1,2	<9,4	<2,0

MW-107S

ANALYTE	DW	GSI	8/30/18	2/25/20	8/18/20
PFBS	420	NC	<0,90	1,9	<2,1
PFHxS	51	NC	2.7	<9,6	<2,1
PFHpS	NC	NC	<0,88	<9,6	<2,1
PFOS	16	12	18	14	24
PFBA	NC	NC	<2,7	<19	<10
PFPeA	NC	NC	<1,1	<9,6	<2,1
PFHxA	400,000	NC	<0,92	<9,6	<2,1
PFHpA	NC	NC	<1,2	<9,6	<2,1
PFOA	8	12,000	2,1	<9,6	<2,1
PFNA	6	NC	<0,94	<9,6	<2,1
PFUnDA	NC	NC	<0,31	<9,6	<2,1
PFDoDA	NC	NC	<0,46	<9,6	<2,1
PFTrDA	NC	NC	<0,75	<9,6	<2,1
PFTeDA	NC	NC	<1.2	<9,6	<2,1

MW-110S

ANALYTE	DW	GSI	8/30/18	7/17/19	2/27/20	8/19/20
PFBS	420	NC	3.6	<9,6	<9,5	1,9
PFHxS	51	NC	4,3	<9,6	<9,5	2
PFHpS	NC	NC	<0,88	<9,6	<9,5	<2,0
PFOS	16	12	8,5	<9,6	<9,5	5,9
PFBA	NC	NC	6,7	20	<19	<10
PFPeA	NC	NC	3	<9,6	<9,5	1,1
PFHxA	400,000	NC	4,8	<9,6	<9,5	<2,0
PFHpA	NC	NC	3,7	<9,6	<9,5	<2,0
PFOA	8	12,000	11	<9,6	<9,5	2,8
PFNA	6	NC	<0,94	<9,6	<9,5	<2,0
PFUnDA	NC	NC	<0,31	<9,6	<9,5	<2,0
PFDoDA	NC	NC	<0,46	<9,6	<9,5	<2,0
PFTrDA	NC	NC	<0,75	<9,6	<9,5	<2,0
PFTeDA	NC	NC	<1,2	<9,6	<9,5	<2,0

MW-101S

ANALYTE	DW	GSI	1/28/18	5/29/18	9/5/18	2/25/20	8/18/20
PFBS	420	NC	<1.9	<0,9	1,4	2,3	1,9
PFHxS	51	NC	<1.9	1,4	1,9	<10	1,9
PFHpS	NC	NC	<1,9	<0,88	1,2	<10	<1,9
PFHpS-LN	NC	NC	<1.9	<0,88	<0,31	<10	1,6
PFOS	16	12	35	12	33	21	30
PFBA	NC	NC	3,1	<2,7	3,8	<20	<9,7
PFPeA	NC	NC	<1,9	<1,1	1,2	<10	1,9
PFHxA	400,000	NC	<1,9	<0,92	1,5	1,7	<1,9
PFHpA	NC	NC	<1.9	<1,2	<1,2	<10	<1,9
PFOA	8	12,000	4,4	2	4,5	<10	3,2
PFNA	6	NC	<1,9	1,1	1,2	<10	<1,9
PFUnDA	NC	NC	<1,9	<0,31	<0,31	<10	<1,9
PFDoDA	NC	NC	<1.9	0.51	<0,46	<10	<1.9
PFTrDA	NC	NC	<1,9	0,82	<0,75	<10	<10
PFTeDA	NC	NC	<1.9	1,4	<1,2	<10	<10

MW-105S

ANALYTE	DW	GSI	9/5/18
PFBS	420	NC	1,8
PFHxS	51	NC	12
PFHpS	NC	NC	2,5
PFOS	16	12	<1
PFBA	NC	NC	3,2
PFPeA	NC	NC	<1.1
PFHxA	400,000	NC	1,6
PFHpA	NC	NC	<1,2
PFOA	8	12,000	4.5
PFNA	6	NC	<0,94
PFUnDA	NC	NC	<0,31
PFDoDA	NC	NC	<0,46
PFTrDA	NC	NC	<0,75
PFTeDA	NC	NC	<1,2

MW-100S

ANALYTE	DW	GSI	9/5/18	2/25/20	8/18/20
PFBS	420	NC	2,5	2,7	1,6
PFHxS	51	NC	4	<9,8	<2,0
PFHpS	NC	NC	1,4	<9,8	<2,0
PFOS	16	12	20	20	18
PFBA	NC	NC	<2,7	<20	<9,8
PFPeA	NC	NC	<1,1	<9,8	<3,9
PFHxA	400,000	NC	1	<9,8	<2,0
PFHpA	NC	NC	<1,2	<9,8	<2,0
PFOA	8	12,000	2	<9,8	<2,0
PFNA	6	NC	<0,94	<9,8	<2,0
PFUnDA	NC	NC	<0,31	<9,8	<2,0
PFDoDA	NC	NC	<0,46	<9,8	<2,0
PFTrDA	NC	NC	<0,75	<9,8	<2,0
PFTeDA	NC	NC	<1.2	<9,8	<2,0

MW-104S

ANALYTE	DW	GSI	9/5/18
PFBS	420	NC	1,3
PFHxS	51	NC	2,1
PFHpS	NC	NC	<0,88
PFOS	16	12	<1
PFBA	NC	NC	<2,7
PFPeA	NC	NC	<1,1
PFHxA	400,000	NC	1,2
PFHpA	NC	NC	<1,2
PFOA	8	12,000	0,79
PFNA	6	NC	<0,94
PFUnDA	NC	NC	<0,31
PFDoDA	NC	NC	<0,46
PFTrDA	NC	NC	<0,75
PFTeDA	NC	NC	1,6

MW-106SR

ANALYTE	DW	GSI	9/5/18	2/25/20	8/18/20
PFHxA	400,000	NC	<0.31	<10	3,7
PFBS	420	NC	4,6	4,5	3,2
PFHxS	51	NC	3,3	<10	3,1
PFHxS-LN	NC	NC	<0,94	<10	2,3
PFHpA	NC	NC	<0,94	<10	3
PFHpS	NC	NC	1,3	<10	<2,0
PFOS	16	12	7,3	7,3	7,3
PFBA	NC	NC	5,9	8,1	<10
PFPeA	NC	NC	1,1	<10	3,1
PFHxA	400,000	NC	2	3,5	3,7
PFHpA	NC	NC	2	2,8	<2,0
PFOA	8	12,000	12	8,7	11
PFNA	6	NC	<0,94	<10	<2,0
PFDA	NC	NC	0.58	<10	<2,0
PFUnDA	NC	NC	<0,31	<10	<2,0
PFDoDA	NC	NC	<0,46	<10	<2,0
PFTrDA	NC	NC	<0,75	<10	<2,0
PFTeDA	NC	NC	2,8	<10	<2,0
EtFOSSAA	NC	NC	<0,83	<10	<2,0

LEGEND

Monitoring Well

DW = Drinking Water Threshold.

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

NC = Insufficient data to develop criterion/no criterion.

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

= Compound exceeds GSI criteria

= Compound exceeds DW criteria.

= Compound exceeds GSI and DW criteria.

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

Only detected constituents listed.

PFA Constiuents

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

Fence

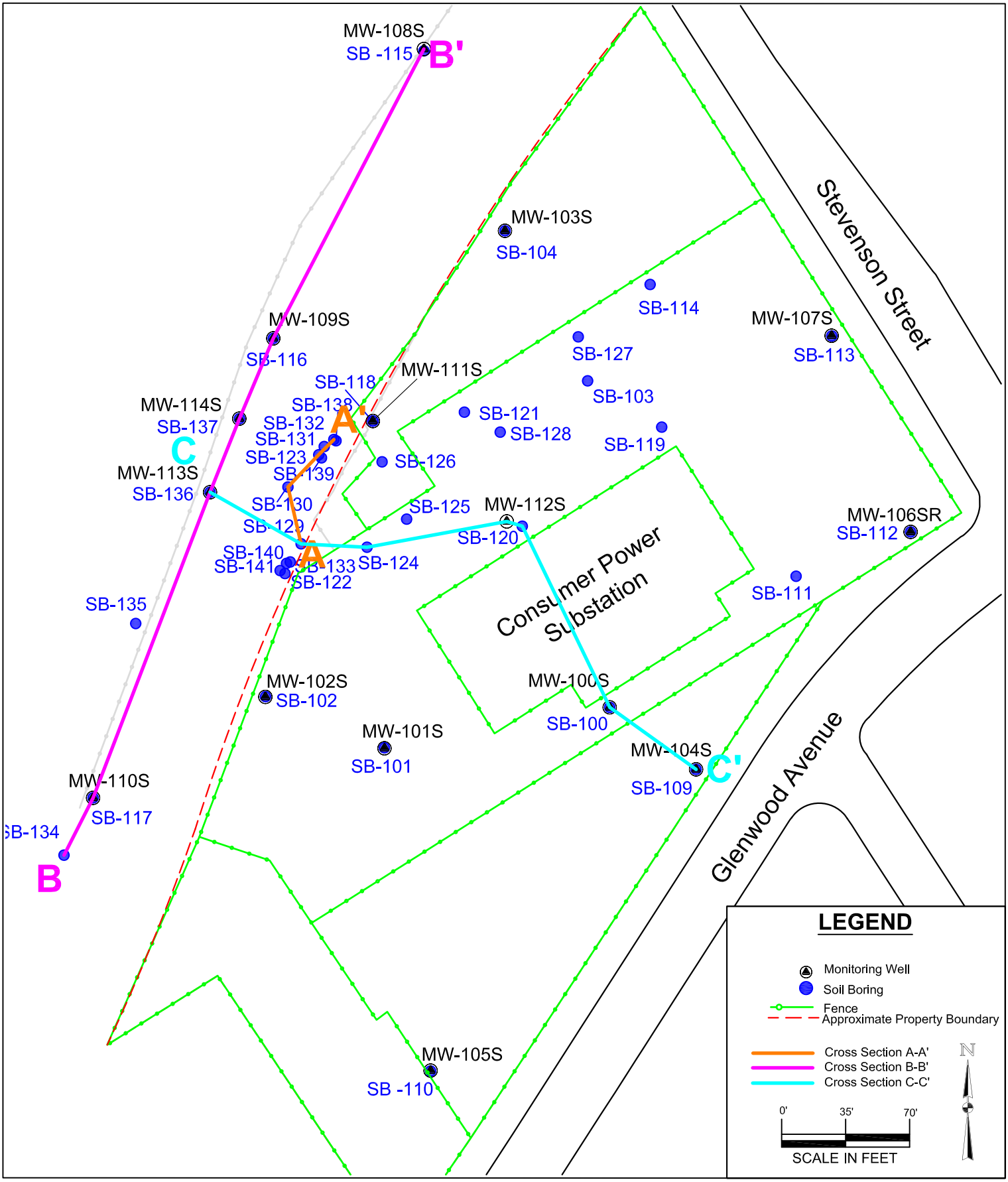
0' 75' 150'

SCALE IN FEET

N

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

APPENDIX B: ATTACHMENTS



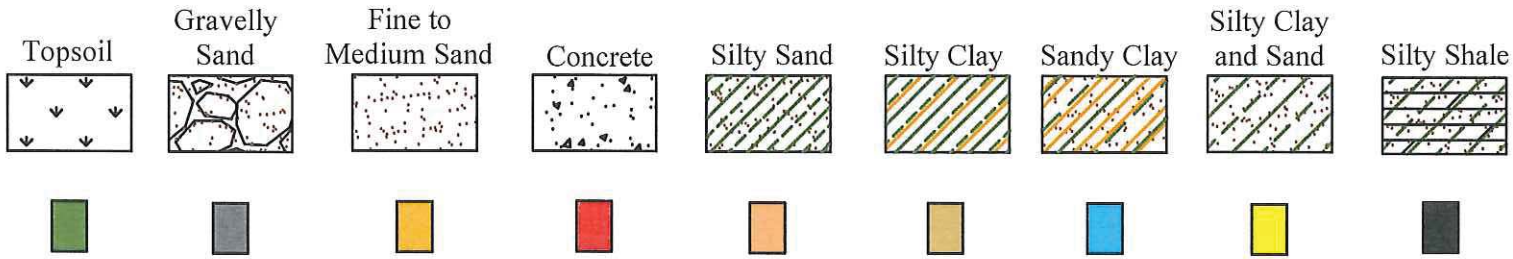
Applied EcoSystems, Inc.
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526

Cross Section Locations Map

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

DATE:	CHECKED BY:
09/05/2019	MDS
PROJECT:	**FIGURE:**
11-4317-102	1

Cross Section Diagram Key



DW Residential Drinking Water Generic Cleanup Criteria

⊕ Monitoring Wells Installed by AE

GSI Groundwater Surface Water Interface Generic Cleanup Criteria GSI criteria calculation based on 257ppm total hardness in the Flint River

Soil and Groundwater analytical results are expressed as defined below;

Well Screen

Dissolved arsenic exceedance above DW and GSI GRCCs

Dissolved copper exceedance above GSI GRCCs

Dissolved lead exceedance above DW GRCCs

Dissolved chromium exceedance above DW GRCCs

Dissolved zinc exceedance above GSI GRCCs

Dissolved selenium exceedance above GSI GRCCs

TCE exceedance above DW GRCCs

TCE exceedance above DW and GSI GRCCs

Dissolved selenium exceedance above DW and GSI GRCCs

SCALE: None

Attachment: 1

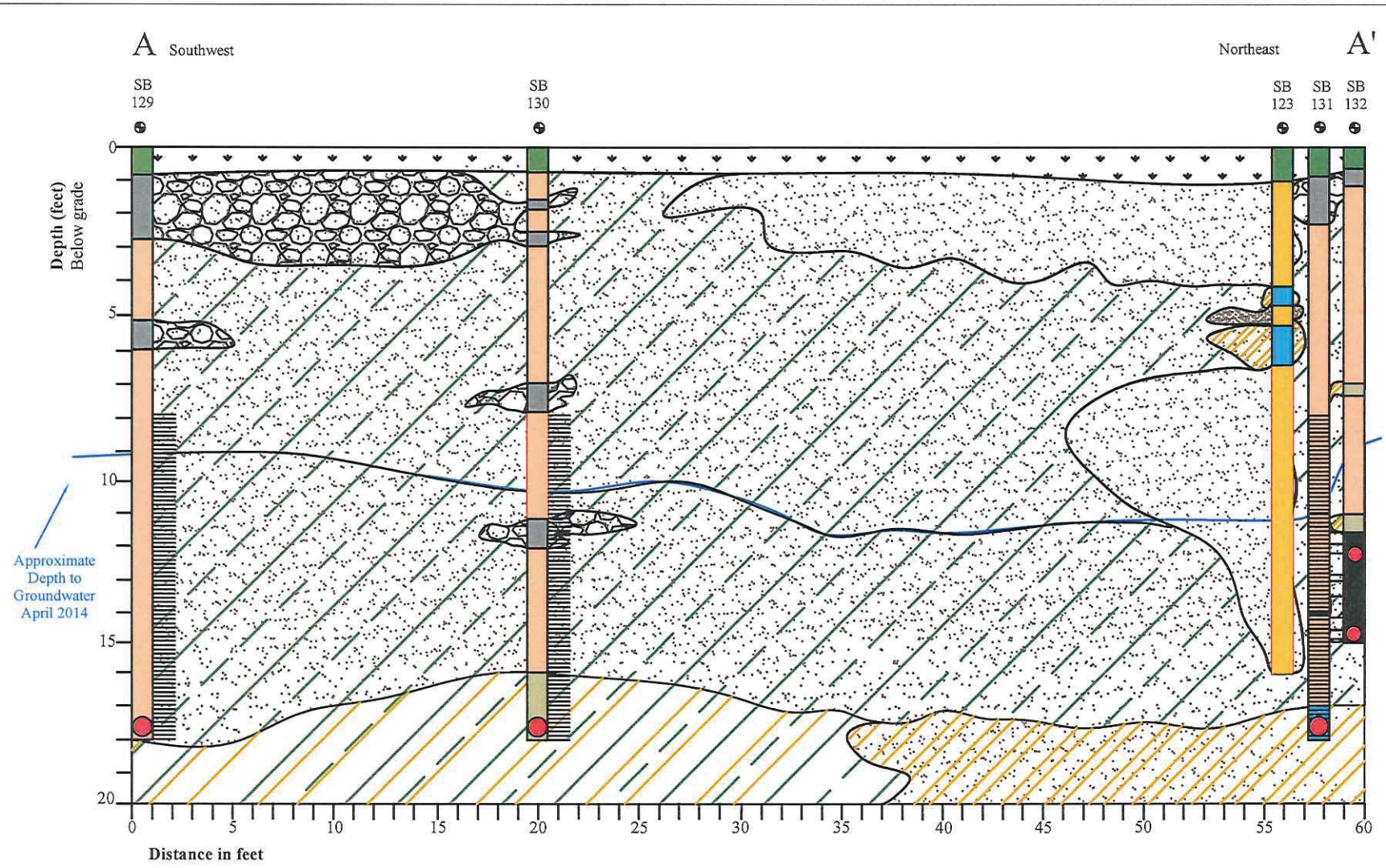
DATE: 2016

PROJECT: 11-4317-102

Cross Section Diagram Key

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

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

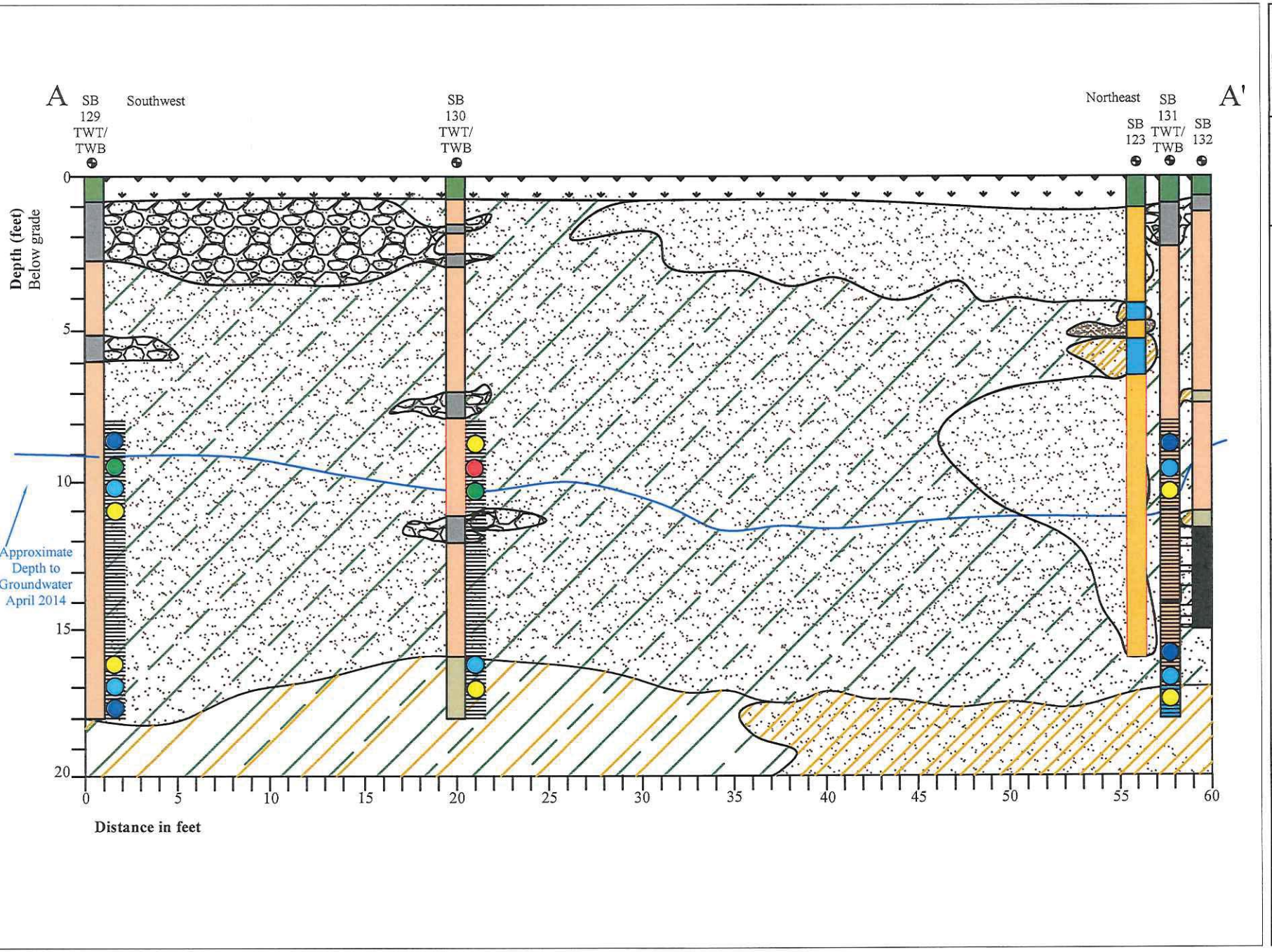


SCALE:	As Noted
Attachment:	1A (1)
DATE:	2016
PROJECT:	11-4317-102

Cross Section Diagram A - A'
TCE Exceedances in Soil

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

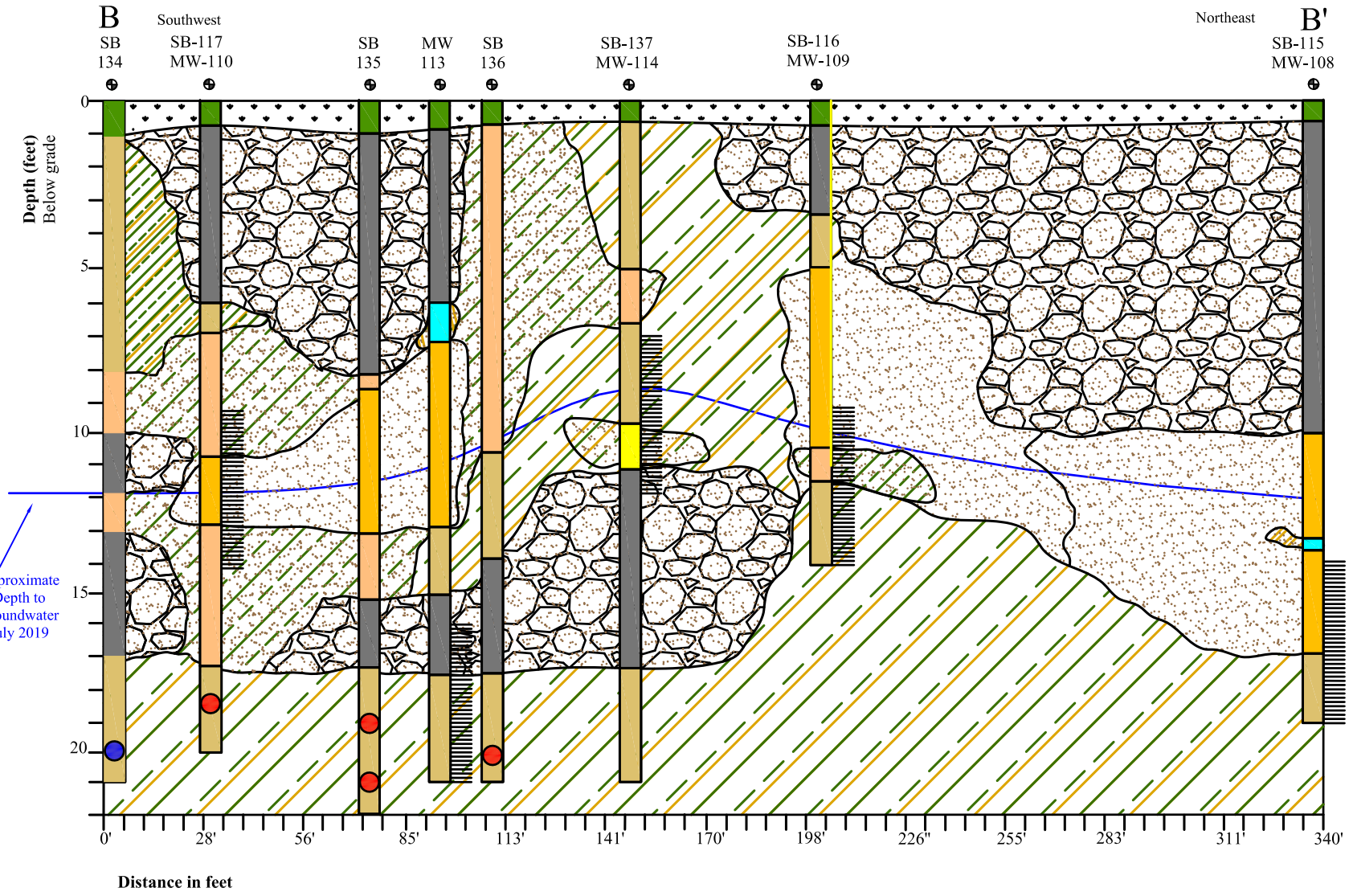
Applied EcoSystems, Inc.
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526



SCALE:	As Noted
Attachment:	1A (2)
DATE:	2015
PROJECT:	11-4317-102

Cross Section Diagram A - A'
Dissolved Metals and TCE Exceedances in Groundwater
Racer Flint West - 12990
Flint West Industrial Land, Flint, MI

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

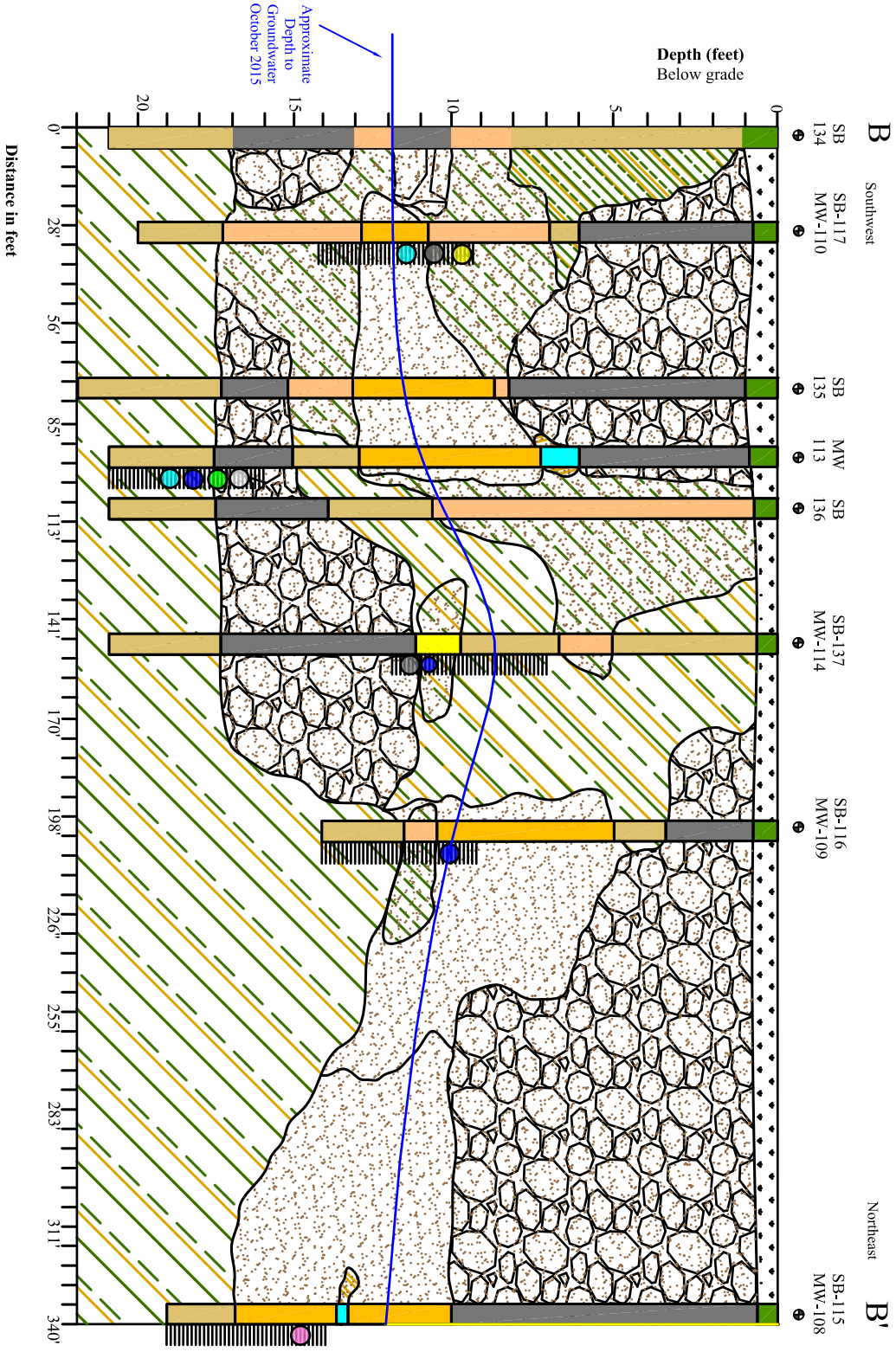


Cross Section Diagram B - B'
TCE Exceedances in Soil

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

SCALE: As Noted	**Attachment:** 1B (1)
DATE: 2015	**PROJECT:** 11-4317-102

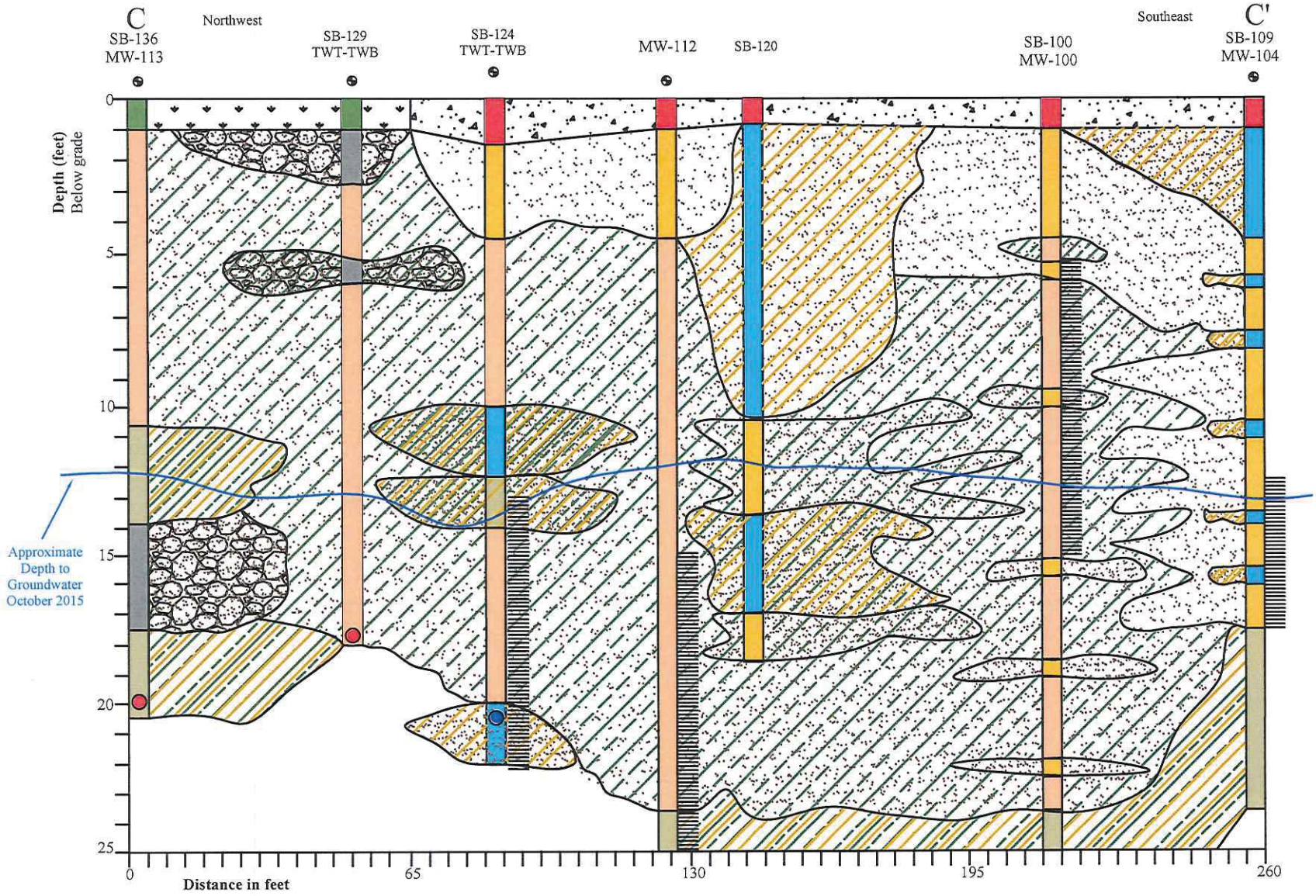
Applied EcoSystems, Inc.
Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
Phone: 810.715.2525; Fax: 810.715.2526



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 Diagram B - B'
Dissolved Metals and TCE Exceedances in Groundwater
Racer Flint West - 12990
Flint West Industrial Land, Flint, MI

DATE:	SCALE:
2015	As Noted
PROJECT:	**Attachment:**
11-4317-102	1B (2)

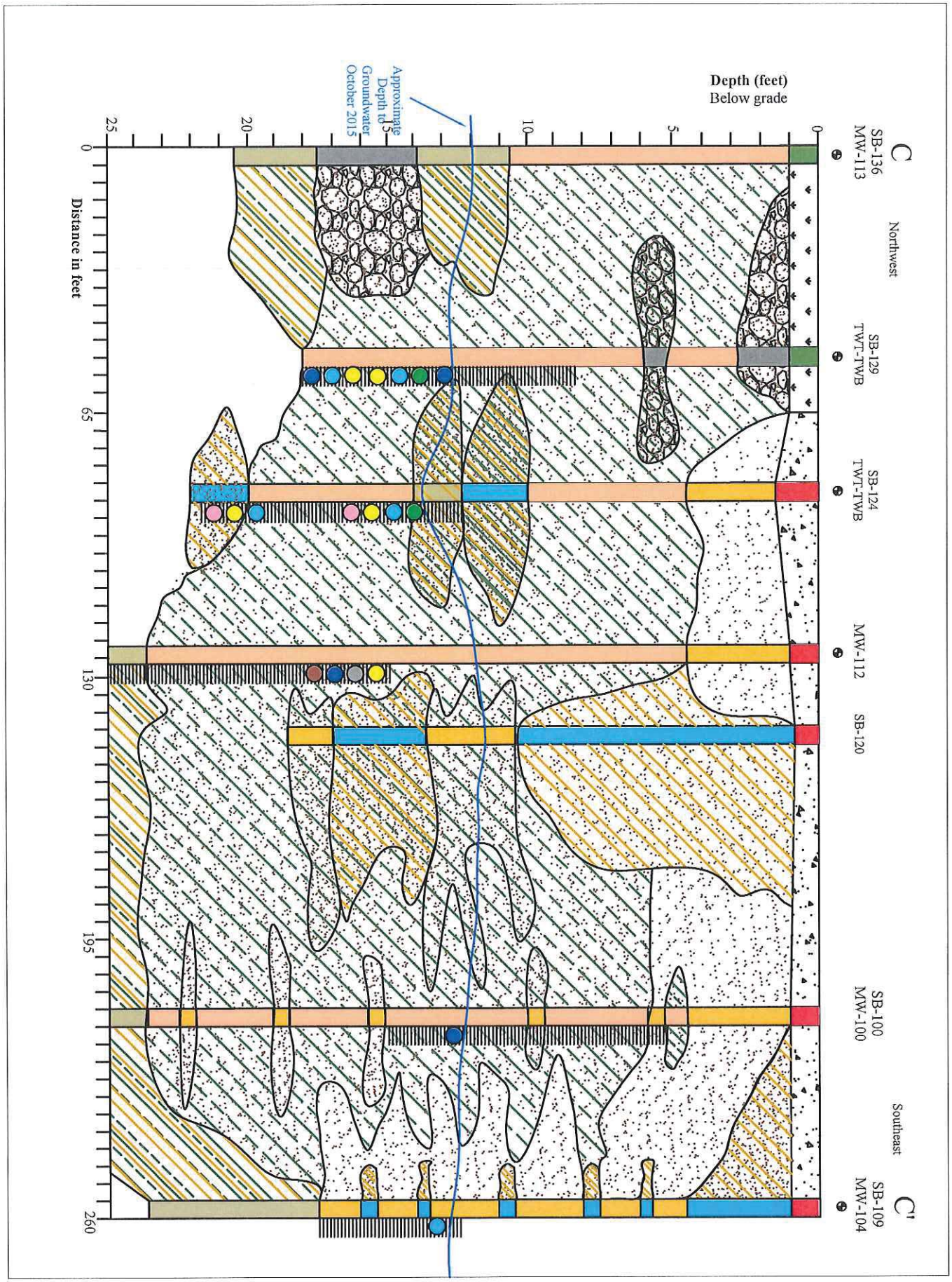


Cross Section Diagram C - C'
TCE Exceedances in Soil

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

DATE:	SCALE:
2016	As Noted
PROJECT:	**Attachment:**
11-4317-102	1C (1)

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



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 Diagram C - C'
Dissolved Metals and TCE Exceedances in Groundwater
Racer Flint West - 12990
Flint West Industrial Land, Flint, MI

DATE:	SCALE:
2016	As Noted
PROJECT:	**Attachment:**
11-4317-102	1C (2)

Table 1
GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	SB124-TWT	SB125-TWT	SB127-TWT	SB129-TWT	SB130-TWT	SB131-TWT	SB124-TWB	SB125-TWB	SB127-TWB	SB129-TWB	SB130-TWB	SB131-TWB	Dup1	Dup2	Dup3
	Date Collected				4/3/14	4/3/14	3/29/14	4/3/14	4/3/14	4/3/14	4/3/14	3/29/14	3/29/14	3/29/14	3/29/14	4/3/14	3/29/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	3/29/14		
ANALYTE (ug/L)	**DW**	GSI																														
Arsenic (dissolved)	10	10					**11**			4				**21**		**19**				**17**	**57**	4	3	2	3	**30**	**38**						
Chromium (dissolved)	100	160	G			35		22	18					7	12		**128**	13			**147**	64	25	16			17	89	19	33	14		
Copper (dissolved)	1,000	20	G											28				21		5	22	140	28	42		12	24	94	144			
Lead (dissolved)	4	44	G											**24**				**29**		**5**	**23**	**208**	**16**	**47**	1	**19**	**11**	**31**	**14**			
Selenium (dissolved)	50	5							6	5		5						12				4		12				5	3			
Zinc (dissolved)	2,400	260	G		97		23	5		62	5	16	18	81	21	9	24	311	167	82	323	326	103	241	400	166	68	241	191	12		

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105SR	MW-106S	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	SB124-TWT	SB125-TWT	SB127-TWT	SB129-TWT	SB130-TWT	SB131-TWT	SB124-TWB	SB125-TWB	SB127-TWB	SB129-TWB	SB130-TWB	SB131-TWB	Dup1	Dup2	Dup3
	Date Collected																															
ANALYTE (ug/L)	**DW**	GSI																														
Acetone	730	1,700			1.13	2.36		0.88	1.82	3.58	3.82		1.22	2.11	0.72	5.17	0.93	5.7		9.1	5.7			10.3	66	25.8	5.9		5.8	1.06		
Methyl iodide	NC	NC																														
Carbon disulfide	800	NC																							0.86	0.4						
2 Butanone (MEK)	13,000	2,200			0.73	0.86		0.41	0.83	0.78	0.94					2.98								11.6	8.6						
Chloromethane	260	NC																					0.33		0.61						
Vinyl Chloride	2.0	13									0.64		**18**		**4**	**6**	0.45			**5**			2		2			2	**4**		
Chloroethane	430	1,100													0.6	1.13				1.07					0.77						
trichlorofluoromethane	2,600	NA																														
1,1-Dichloroethene	7.0	130											4		1	0.40				1					0.81				1		
Methylene Chloride	5.0	1,500																														
trans-1,2-Dichloroethene	100	1,500											0.92		0.24	0.23												0.28	0.26		
1,1-Dichloroethane	880	740									0.21		3.00		2	0.69	2.00						3.00					2.00	2.00		
cis-1,2-Dichloroethene	70	620									3		59		46	2	26			0.042	0.69	2	21			0.36	0.93	3.00	21.00	43.00		
Tetrahydrofuran	95	11,000																														
Chloroform	80	350						3.00				0.35	0.35		0.29								0.042					0.41	0.29		
1,1,1-Trichloroethane	200	89											0.48		0.75								0.72					0.71	0.73		
4-Methyl-2-pentanone (M	1800	1000000000														0.67				0.390					0.590	2.190						
2-Hexanone	1000	1000000000																		0.750				0.210	2.170	4.570						
Carbontetrachloride	5.0	45										2																				
Benzene	5.0	200									0.25									0.43	0.12			0.17	0.21	0.81	0.21	0.16	0.23			
Bromodichloromethane	80.0	NC						0.89																								
Trichloroethene	5.0	200			3	2					4		**102**		**92**	3	**23**				**8**	3	**81**	0.55			**8**	5	**78**	**86**		
Toluene	790	270								0.35	0.63							0.23		0.39	0.20			0.38	0.30	1.00	0.35	0.24	0.44			
Tetrachloroethene	5.0	60							**47**														0.180						0.17			
Chlorobenzene	100	25																														
Styrene	100	80																		0.43												
Ethylbenzene	74	18																						0.12	0.11	0.31			0.11			
Total Xylenes	280	41																								0.79						
1,2 -Dichlorobenzene	600	13																														
1,2,4-Trimethylbenzene	63	17																							0.22	0.31						
1,2,3-Trimethylbenzene	NC	NC								0.07	0.07														0.20	0.18						
Naphthalene	520	11																0.34		0.31				0.75	1.68	0.55						
2-Methylnaphthalene	260	19																0.51		0.40				0.47	0.88	0.47						

NOTES:

	Blank cells indicate no detectable concentrations
X	Exceeds DW criteria
X	Exceeds GSI criteria G
X	Exceeds both DW and GSI criteria
X	Compound also found in associated method blank, suggesting a laboratory artifact.
NC	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

Table 1
GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2	Dup3
	Date Collected			6/25/14	6/25/14	6/25/14	6/26/14	6/25/14	6/26/14	6/25/14	6/25/14	6/26/14	6/26/14	6/26/14	6/26/14	6/25/14	6/26/14			
ANALYTE (ug/L)	**DW**	GSI																		
Arsenic (dissolved)	10	10														**19**				
Chromium (dissolved)	100	160	G			51											**152**			
Copper (dissolved)	1,000	20	G														4			
Lead (dissolved)	4	44	G					**25**	**22**	**23**				**15**			**5**			
Selenium (dissolved)	50	5				**66**			8			6								
Zinc (dissolved)	2,400	260	G	5	11		10				5	7				8	13			

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105SR	MW-106S	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2	Dup3
	Date Collected			6/25/14	6/25/14	6/25/14	6/26/14	6/25/14	6/26/14	6/25/14	6/25/14	6/26/14	6/26/14	6/26/14	6/26/14	6/25/14	6/26/14			
ANALYTE (ug/L)	**DW**	GSI																		
Acetone	730	1,700		1.74	1.45	2.04	2.67	1.55	1.86	1.59	2.82	1.32	1.47	1.29	1.48	4.93	1.32			
Methyl iodide	NC	NC																		
Carbon disulfide	800	NC														0.42	0.36			
2 Butanone (MEK)	13,000	2,200									0.4	0.65	0.29		0.29	1.99				
Chloromethane	260	NC		0.32				0.34									0.29			
Vinyl Chloride	2.0	13											**10**			**21**	2			
Chloroethane	430	1,100														2.9				
trichlorofluoromethane	2,600	NA																		
1,1-Dichloroethene	7.0	130											4			2.00	0.39			
Methylene Chloride	5.0	1,500																		
trans-1,2-Dichloroethene	100	1,500											0.7			0.64	0.24			
1,1-Dichloroethane	880	740														1.00	3.00			
cis-1,2-Dichloroethene	70	620		0.62									3			7	59			
Tetrahydrofuran	95	11,000											70.0							
Chloroform	80	350						5.00		0.22		0.5	0.37				0.320			
1,1,1-Trichloroethane	200	89											0.50				1.00			
4-Methyl-2-pentanone (MI	1800	1000000000														0.83				
2-Hexanone	1000	1000000000														1.46				
Carbontetrachloride	5.0	45										2								
Benzene	5.0	200																		
Bromodichloromethane	80.0	NC						0.82												
Trichloroethene	5.0	200		5	1	3			**26**		2		**104**		2	**24**	**69**			
Toluene	790	270																		
Tetrachloroethene	5.0	60																		
Chlorobenzene	100	25																		
Styrene	100	80																		
Ethylbenzene	74	18																		
Total Xylenes	280	41																		
1,2 -Dichlorobenzene	600	13																		
1,2,4-Trimethylbenzene	63	17																		
1,2,3-Trimethylbenzene	NC	NC																		
Naphthalene	520	11																		
2-Methylnaphthalene	260	19																		

NOTES:

	Blank cells indicate no detectable concentrations
X	Exceeds DW criteria
X	Exceeds GSI criteria G
X	Exceeds both DW and GSI criteria
X	Compound also found in associated method blank, suggesting a laboratory artifact.
NC	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

Table 1
GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2
	Date Collected			12/22/14	12/22/14	11/18/14	12/22/14	11/18/14	11/18/14	11/18/14	11/18/14	11/20/14	11/20/14	11/18/14	11/20/14	11/18/14	11/20/14	11/18/14	11/20/14
ANALYTE (ug/L)	**DW**	**GSI**																	
Arsenic (dissolved)	10	10		**na**										**17**		**20**			
Arsenic	10	10		**29**	4	**12**	**na**	**12**	**42**	**13**	2	5	**16**	**55**	9	**400**	**40**	**11.00**	5.00
Cadmium (dissolved)	5	5	GX	**na**		**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Cadmium	5	5	GX	**6.90**		**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Chromium (dissolved)	100	160	G	**na**	**na**	7	**na**	9	6	15				7	7			10	
Chromium	100	160	GX	**na**	**na**	62	**na**	**17,800**	**42,600**	**68,000**	14	19	16	69	**237**	**140**	**822**	**14,000**	11
Copper (dissolved)	1,000	20	G	**na**			**na**												
Copper	1,000	20	GX	230	32	22	**na**	716	802	402	29	31	26	736	22	502	300	583	21
Lead (dissolved)	4	44	G	**na**			**na**												
Lead	4	44	GX	**70**	**21**	**14**	**na**	**6**	**29**	**44**	**6**	**15**	**32**	**249**	**20**	**354**	**289**	**5**	**23**
Selenium (dissolved)	50	5		**na**			**na**		14	5									
Selenium	50	5					**na**		16	5								6	
Zinc (dissolved)	2,400	260	G	**na**	66		**na**	28		15	9	13	11	25	34	9	23	36	43
Zinc	2,400	260	GX	493	74	33	**na**	29	52	210	27	222	47	556	36	920	504	23	75

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2
	Date Collected			12/22/14	12/22/14	11/18/14	12/22/14	11/18/14	11/18/14	11/18/14	11/18/14	11/20/14	11/20/14	11/18/14	11/20/14	11/18/14	11/20/14		
ANALYTE (ug/L)	**DW**	**GSI**																	
Acetone	730	1,700		1.83	2.77		**na**									42			
Methyl iodide	NC	NC					na												
Carbon disulfide	800	NC		0.29			**na**	0.70											
2 Butanone (MEK)	13,000	2,200		0.55			**na**									24			
Chloromethane	260	NC					**na**	0.27	0.35		0.33		0.53	0.58	0.88		0.48	0.58	
Vinyl Chloride	2.0	13					**na**				0.58		**12**			**3**			
Chloroethane	430	1,100					**na**									0.88			
trichlorofluoromethane	2,600	NA					**na**												
1,1-Dichloroethene	7.0	130					**na**						5						
Methylene Chloride	5.0	1,500					**na**												
trans-1,2-Dichloroethene	100	1,500					**na**						0.9						
1,1-Dichloroethane	880	740					**na**				0.71		1			0.76	0.47		
cis-1,2-Dichloroethene	70	620		1			**na**				2	0.57	45		1	3	9		0.56
Tetrahydrofuran	95	11,000					**na**												
Chloroform	80	350					**na**	3				2	0.18					3	2
1,1,1-Trichloroethane	200	89					**na**						0.37				0.29		
4-Methyl-2-pentanone (MIBK)	1800	1000000000					**na**									3.88			
2-Hexanone	1000	1000000000					**na**									12			
Carbontetrachloride	5.0	45					**na**					2							2
Benzene	5.0	200					**na**							0.12		0.29			
Bromodichloromethane	80.0	NC					**na**	0.54										0.46	
Trichloroethene	5.0	200		2	4	0.36	**na**				5		**160**		**7**		**61**	0.3	
Toluene	790	270					**na**							0.22		0.51			
Tetrachloroethene	5.0	60			0.23		**na**		**73**				0.2				0.20		
Chlorobenzene	100	25					**na**												
Styrene	100	80					**na**												
Ethylbenzene	74	18					**na**									0.17			
Total Xylenes	280	41					**na**												
1,2 -Dichlorobenzene	600	13					**na**												
1,2,4-Trimethylbenzene	63	17					**na**												
1,2,3-Trimethylbenzene	NC	NC					na												
Naphthalene	520	11					**na**												
2-Methylnaphthalene	260	19					**na**												

NOTES:

	Blank cells indicate no detectable concentrations
X	Exceeds DW criteria
X	Exceeds GSI criteria G =
X	Exceeds both DW and GSI criteria
X	Compound also found in associated method blank, suggesting a laboratory artifact.
NC	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River
na	Sample not analyzed for this constituent

Table 1
GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2
	Date Collected			DRY	4/28/15	4/28/15	4/30/15	4/28/15	4/28/15	4/28/15	4/28/15	4/30/15	4/30/15	4/30/15	4/30/15	4/28/15	4/30/15	4/28/15	4/30/15
ANALYTE (ug/L)	**DW**	GSI																	
Arsenic (dissolved)	10	10					6									**16**			6
Arsenic	10	10			4		**23**			5				2	6	**277**	6		**20**
Chromium (dissolved)	100	160	G			22		5	8									10	
Chromium	100	160	G		17	24		**1590**	**829**	**58300**					29	9	73	16	
Copper (dissolved)	1000	20	G																
Copper	1000	20	G		31	9		40	13	306						14	12		
Lead (dissolved)	4	44	G																
Lead	4	44	G		**24**					**26**						**9**	**11**		
Selenium (dissolved)	50	5							9										
Selenium	50	5							9										
Zinc (dissolved)	2400	260	G		9			8		120		6			9	39	22	11	
Zinc	2400	260	G		9			8		133		6			9	39	22	11	
Final Field Turbidity Reading, before flitering stated in ug/L					785E+3	432E+3	595E+3	1010E+3	1105E+3	1694E+3	479E+3	453E+3	505E+3	585E+3	617E+3	829E+3	729E+3		
	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105SR	MW-106S	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2
	Date Collected			DRY	4/28/15	4/28/15	4/30/15	4/28/15	4/28/15	4/28/15	4/28/15	4/30/15	4/30/15	4/30/15	4/30/15	4/28/15	4/30/15	4/28/15	4/30/15
ANALYTE (ug/L)	**DW**	GSI																	
PNAs	varies	varies																	

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105SR	MW-106S	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Dup1	Dup2
	Date Collected			DRY	4/28/15	4/28/15	4/30/15	4/28/15	4/28/15	4/28/15	4/28/15	4/30/15	4/30/15	4/30/15	4/30/15	4/28/15	4/30/15	4/28/15	4/30/15
ANALYTE (ug/L)	**DW**	GSI																	
Acetone	730	1,700														10			
Methyl iodide	NC	NC																	
Carbon disulfide	800	NC								0.17						0.16			
2 Butanone (MEK)	13,000	2,200														6.6			
Chloromethane	260	NC			4	6	2	6	5	5	4	4	4	5	5	4	2		3
Vinyl Chloride	2.0	13									0.6		**21**		**4**	**4**	2		
Chloroethane	430	1,100					0.7									5			0.77
trichlorofluoromethane	2,600	NA																	
1,1-Dichloroethene	7.0	130											4		0.88				
Methylene Chloride	5.0	1,500																	
trans-1,2-Dichloroethene	100	1,500											1		0.99		0.26		
1,1-Dichloroethane	880	740									0.56		2		2	0.52	3		
cis-1,2-Dichloroethene	70	620									2		51		48	0.66	19		
Tetrahydrofuran	95	11,000																	
Chloroform	80	350						1		0.7		1	0.28		0.29	0.21	0.19		
1,1,1-Trichloroethane	200	89											0.51		0.36				
4-Methyl-2-pentanone (MIBK	1800	1E+09														1			
2-Hexanone	1000	1E+09														3			
Carbontetrachloride	5.0	45										2							
Benzene	5.0	200			0.26		0.23												0.25
Bromodichloromethane	80.0	NC																	
Trichloroethene	5.0	200			2	0.51					2		**138**		**78**	0.62	**36**		
Toluene	790	270			0.71					0.18									
Tetrachloroethene	5.0	60							**69**										
Chlorobenzene	100	25																	0.17
Styrene	100	80					0.15												0.21
Ethylbenzene	?	?																	
Total Xylenes	280	41																	
1,2 -Dichlorobenzene	?	?																	
1,2,4-Trimethylbenzene	63	17																	
1,2,3-Trimethylbenzene	NC	NC																	
Naphthalene	520	11																	
2-Methylnaphthalene	260	19																	

NOTES:

	Blank cells indicate no detectable concentrations
X	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.
NC	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

Table 1
GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank
	Date Collected			DRY	10/26/15	10/26/15	10/27/15	10/26/15	10/26/15	10/26/15	10/26/15	10/27/15	10/27/15	10/27/15	10/27/15	10/26/15	10/27/15	10/26/15	10/26/15
ANALYTE (ug/L)	**DW**	GSI																	
Arsenic (dissolved)	10	10		DRY			4							3.31	0.51	4	1.09		
Arsenic	10	10		DRY	4.3	**20**	**140**	**13.6**	**70**	**53**	**68**	**18.4**	**40**	**30**	**60**	**235**	**30**		
Chromium (dissolved)	100	160	G	DRY	2.39	7.1	0.51		23	**128**		0.67	0.5	0.66	4.35	0.57	0.76		
Chromium	100	160	G	DRY	49.1	90	**120**	**10,000**	16.2	**446,000**	29.5	70	70	16.4	**1,140**	**150**	**220**		
Copper (dissolved)	1000	20	G	DRY				1.04	1.89	1.5	4.88	2.28	7.11	12	2.85	115	3.13		
Copper	1000	20	G	DRY	14.42	37.44	160	210	820	**2,760**	70	90	90	90	70	200	80		
Lead (dissolved)	4	44	G	DRY				1.57		1.11						1.27			
Lead	4	44	G	DRY	**7.61**	**20.45**	**80**	**29.78**	**180**	**300**	**16.86**	**90**	**70**	**20.3**	**40**	**100**	**50**		
Selenium (dissolved)	50	5		DRY		1.3		1.9	9.9	4.6	2.2	1.4	2	***1.2***		**102**			
Selenium	50	5		DRY	12	16		15	17						***16***				
Zinc (dissolved)	2400	260	G	DRY	35	111	12	42	24	22	17	16	15	19	34	101	84		
Zinc	2400	260	G	DRY	40.3	100	410	160	800	1,600	110	350	230	70	140	450	170		
	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank
	Date Collected			DRY	10/26/15	10/26/15	10/27/15	10/26/15	10/26/15	10/26/15	10/26/15	10/27/15	10/27/15	10/27/15	10/27/15	10/26/15	10/27/15	10/26/15	10/26/15
ANALYTE (ug/L)	**DW**	GSI																	
Acetone	730	1,700		DRY															
Methyl iodide	NC	NC		DRY															
Carbon disulfide	800	NC		DRY															
2 Butanone (MEK)	13,000	2,200		DRY			1.74											0.82	0.79
Chloromethane	260	NC		DRY															
Vinyl Chloride	2.0	13		DRY									**20**		**97**				
Chloroethane	430	1,100		DRY															
trichlorofluoromethane	2,600	NA		DRY															
1,1-Dichloroethene	7.0	130		DRY									5.3		4	0.76			
Methylene Chloride	5.0	1,500		DRY															
trans-1,2-Dichloroethene	100	1,500		DRY											1		0.27		
1,1-Dichloroethane	880	740		DRY									3.3		2		1		
cis-1,2-Dichloroethene	70	620		DRY							0.42	0.66	**80**		42	1	23		
Tetrahydrofuran	95	11,000		DRY															
Chloroform	80	350		DRY				2				3							
1,1,1-Trichloroethane	200	89		DRY											0.33		0.45		
4-Methyl-2-pentanone (MIBK)	1800	1000000000		DRY												1.09			
2-Hexanone	1000	1000000000		DRY												1.64			
Carbontetrachloride	5.0	45		DRY								3							
Benzene	5.0	200		DRY			0.21		0.26	0.22						0.2			
Bromodichloromethane	80.0	NC		DRY				0.65											
Trichloroethene	5.0	200		DRY	3	0.68		0.68			2	0.33	**200**		**92**		**67**		
Toluene	790	270		DRY					0.58	0.4	0.31					0.37			
Tetrachloroethene	5.0	60		DRY					**58**										
Chlorobenzene	100	25		DRY															
Styrene	100	80		DRY															
Ethylbenzene	74	18		DRY															
Total Xylenes	280	41		DRY															
1,2 -Dichlorobenzene	600	13		DRY															
1,2,4-Trimethylbenzene	63	17		DRY															
1,2,3-Trimethylbenzene	NC	NC		DRY															
Naphthalene	520	11		DRY															
2-Methylnaphthalene	260	19		DRY															

NOTES:

	Blank cells indicate no detectable concentrations
X	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.
NC	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

Table 1

GROUNDWATER ANALYTICAL DATA

RACER - Flint West #12990

As Erronously Labeled in May 23, 2016 Laboratory Report

										MW-112	**MW-113**					**MW-120**										
	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank	Trip Blank	Field Blank	Dup1	Trip Blank	Field Blank	Dup2	Dup3
	Date Collected			5/11/16	5/11/16	NS	6/8/16	6/1/16	NS	5/11/16	5/11/16	6/1/16	6/1/16	6/1/16	6/8/16	5/11/16	6/1/16	5/11/16	5/11/16	6/1/16	6/1/16	6/1/16	6/8/16	6/8/16	6/8/16	6/8/16
ANALYTE (ug/L)	**DW**	GSI																								
Arsenic (dissolved)	10	10				**NS**	6	1.65	**NS**				0.65	1.21	0.55	**18**	2.08									
Arsenic	10	10			3	**NS**	**22**	1.62	**NS**	3		0.96	5	3	1	**79**	9									
Chromium (dissolved)	100	160	G			**NS**	1.16	1.19	**NS**			1.42	1.17	1.77	3.33		1.73									
Chromium (total)	100	160	G	5	13	**NS**	1	**465**	**NS**	77	3	1.91	3.38	1.3	4		4.86									
Chromium VI (dissolved)	100	160				**NS**			**NS**																	
Chromium VI (total)	100	160		**NA**	**NA**	**NS**	**NA**		**NS**	**NA**				**NA**		**NA**	**NA**									
Copper (dissolved)	1000	20	G			**NS**	2.02	0.51	**NS**			2.32	6	1.49	1.25		0.73									
Copper	1000	20	G	4	7	**NS**	0.77	16	**NS**	7	3	1.95	8	0.74	1.38											
Lead (dissolved)	4	44	G			**NS**	0.278	0.764	**NS**			0.187	0.325	0.32	0.094	1	0.155									
Lead	4	44	G	2	3	**NS**	0.105	0.554	**NS**	2		0.785	2.6		0.5											
Selenium (dissolved)	50	5				**NS**			**NS**			6														
Selenium	50	5				**NS**		6	**NS**			6														
Zinc (dissolved)	2400	260	G	21		**NS**	1870	18	**NS**			1220	730	373	49	5	317									
Zinc	2400	260	G	11	22	**NS**	2.46	1.48	**NS**	12	7	6	10		2.95	7										

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank	Trip Blank	Field Blank	Dup2	Trip Blank	Field Blank	Dup3	Dup3
	Date Collected			5/11/16	5/11/16	NS	6/8/16	6/1/16	NS	5/11/16	5/11/16	6/1/16	6/1/16	6/1/16	6/8/16	5/11/16	6/1/16	5/11/16	5/11/16	6/1/16	6/1/16	6/1/16	6/8/16	6/8/16	6/8/16	6/8/16
ANALYTE (ug/L)	**DW**	GSI																								
Acetone	730	1,700		2.72	1.62	**NS**			**NS**	2.72	2.1		0.6	0.67		4.21			1.98		0.69					
Methyl iodide	NC	NC				**NS**			**NS**																	
Carbon disulfide	800	NC				**NS**			**NS**																	
2 Butanone (MEK)	13,000	2,200				**NS**			**NS**							1.36			0.37							
Chloromethane	260	NC				**NS**			**NS**																	
Vinyl Chloride	2.0	13				**NS**			**NS**				**15**			**17**										
Chloroethane	430	1,100				**NS**			**NS**							2.59										
trichlorofluoromethane	2,600	NA				**NS**			**NS**																	
1,1-Dichloroethene	7.0	130				**NS**			**NS**				3													
Methylene Chloride	5.0	1,500				**NS**			**NS**																	
trans-1,2-Dichloroethene	100	1,500				**NS**			**NS**				0.59			0.36										
1,1-Dichloroethane	880	740				**NS**			**NS**				1			1	3									
cis-1,2-Dichloroethene	70	620		0.34		**NS**			**NS**							3	30									
Tetrahydrofuran	95	11,000				**NS**			**NS**																	
Chloroform	80	350				**NS**		3	**NS**			1									0.490	3.000				
1,1,1-Trichloroethane	200	89				**NS**			**NS**				0.31				0.3									
4-Methyl-2-pentanone (MIBK)	1800	ID				**NS**			**NS**							0.3										
2-Hexanone	1000	ID				**NS**			**NS**							0.47										
Carbontetrachloride	5.0	45				**NS**			**NS**			2														
Benzene	5.0	200				**NS**			**NS**																	
Bromodichloromethane	80.0	NC				**NS**		0.74	**NS**													0.710				
Trichloroethene	5.0	200		4	2	**NS**			**NS**	4	0.26		**93**		**11**	**12**	**50**									
Toluene	790	270				**NS**			**NS**																	
Tetrachloroethene	5.0	60				**NS**			**NS**																	
Chlorobenzene	100	25				**NS**			**NS**																	
Styrene	100	80				**NS**			**NS**																	
Ethylbenzene	74	18				**NS**			**NS**																	
Total Xylenes	280	41				**NS**			**NS**																	
1,2 -Dichlorobenzene	600	13				**NS**			**NS**																	
1,2,4-Trimethylbenzene	63	17				**NS**			**NS**																	
1,2,3-Trimethylbenzene	NC	NC				**NS**			**NS**																	
Naphthalene	520	11				**NS**			**NS**																	
2-Methylnaphthalene	260	19				**NS**			**NS**																	
Diethyl ether	10 (E)	ID				**NS**			**NS**																	
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)				**NS**			**NS**																	
Acrylonitrile	2.6	2.0 (M); 1.2				**NS**			**NS**																	
Dichlorodifluoromethane	1,700	ID				**NS**			**NS**																	
Bromomethane	10	35				**NS**			**NS**																	
1,2-Dichloroethane	5.0 (A)	360 (X)				**NS**			**NS**																	
Trichloroethene	5.0 (A)	200 (X)				**NS**			**NS**																	
1,2-Dichloropropane	5.0 (A)	230 (X)				**NS**			**NS**																	
cis-1,3-Dichloropropene	NC	NC				**NS**			**NS**																	
trans-1,3-Dichloropropene	NC	NC				**NS**			**NS**																	
1,1,2-Trichloroethane	5.0 (A)	330 (X)				**NS**			**NS**																	
trans-1,4-Dichloro-2-butene	NC	NC				**NS**			**NS**																	
Dibromochloromethane	80 (A,W)	ID				**NS**			**NS**																	
1,2-Dibromoethane	NC	NC				**NS**			**NS**																	
1,1,1,2-Tetrachloroethane	77	ID				**NS**			**NS**																	
Isopropylbenzene	800	28				**NS**			**NS**																	
Bromoform	80 (A,W)	ID				**NS**			**NS**																	
1,1,2,2-Tetrachloroethane	8.5	78 (X)				**NS**			**NS**																	
1,2,3-Trichloropropane	42	NA				**NS**			**NS**																	
n-Propylbenzene	80	ID				**NS**			**NS**																	
Bromobenzene	18	NA				**NS**			**NS**																	
1,3,5-Trimethylbenzene	72 (E)	45				**NS**			**NS**																	
tert-Butylbenzene	80	ID				**NS**			**NS**																	
1,2,4-Trimethylbenzene	63 (E)	17				**NS**			**NS**																	
1,2,3-Trichlorobenzene	NC	NC				**NS**			**NS**																	

NOTES:

	Blank cells indicate no detectable concentrations
X	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.
NC	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S			Dup			Dup			
	Date Collected			10/27/16	10/27/16	11/1/16	10/31/16	11/1/16	11/1/16	10/27/16	10/27/16	10/31/16	10/31/16	10/31/16	10/31/16	10/27/16	10/31/16			10/27/16			10/31/16			
ANALYTE (ug/L)	DW	GSI																								
Arsenic (dissolved)	10	10				1.63			1.23		0.79	15			6	108	4			34						
Arsenic	10	10		1.69	0.7	4			6	0.93	1.05	52	1.26		11	265	17			259			2			
Chromium (dissolved)	100	160	G	0.95	20	6		24	407	340	0.18	0.56			0.41	2.41	2.86			0.59			0.64			
Chromium (total)	100	160	G	10	63	8	0.059	146	6540	619	19	1.31	0.62	6	2	9	22			6			1.38			
Chromium VI (dissolved)	100	160												14												
Chromium VI (total)	100	160																								
Copper (dissolved)	1000	20	G	0.91	4.31	2.20	0.99	2.22	31	32	1.25		6		6	6				3			0.86			
Copper	1000	20	G	5	18	1.41	1.1	4.16	203	64	2.46		6	1.85	6	10	2.94			6			1.63			
Lead (dissolved)	4	44	G	0.144	0.148	0.97	0.116		0.85	0.451			0.151	0.075	0.978	1.651				0.191			0.361			
Lead	4	44	G	2.32	0.895	1.33	0.306		3.00	0.632	0.35	0.161	0.479	0.523	1.3	5	2.855			3.000			0.928			
Selenium (dissolved)	50	5																								
Selenium	50	5																								
Zinc (dissolved)	2400	260	G	20.6	2.28	5	4.19		390	2.89	10	2.36	3.46		6	16	2.05			10			6			
Zinc	2400	260	G	12	5	6	2.35		1380	2	11		3.59	2.3	7	32	9			21			6			

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank	Dup	Trip Blank	Field Blank	Dup			
	Date Collected			10/27/16	10/27/16	11/1/16	10/31/16	11/1/16	11/1/16	10/27/16	10/27/16	10/31/16	10/31/16	10/31/16	10/31/16	10/27/16	10/31/16	10/27/16	10/27/16	10/27/16	10/31/16	10/31/16	10/31/16			
ANALYTE (ug/L)	DW	GSI																								
Acetone	730	1,700														10										
Methyl Iodide	NC	NC																								
Carbon disulfide	800	NC																								
2 Butanone (MEK)	13,000	2,200																								
Chloromethano	260	NC																								
Vinyl Chloride	2.0	13											8		72	2				2						
Chloroethane	430	1,100														3				3						
Irichlorofluoromethane	2,600	NA																								
1,1-Dichloroethene	7.0	130											3		4											
Methylene Chloride	5.0	1,500																								
trans-1,2-Dichloroetheno	100	1,500																								
1,1-Dichloroethane	880	740											2		2											
cis-1,2-Dichloroethene	70	620									2		32		10	2	11			2						
Tetrahydrofuran	95	11,000																								
Chloroform	80	350						1				3											2			
1,1,1-Trichloroethane	200	89																								
4-Methyl-2-pentanono (MIBK)	1800	ID																								
2-Hexanone	1000	ID																								
Carbontetrachloride	5.0	45										2											1			
Benzene	5.0	200																								
Bromodichloromethane	80.0	NC																								
Trichloroethene	5.0	200		3	2						3		119		41	3	50			2						
Toluene	790	270																								
Tetrachloroethene	5.0	60							34																	
Chlorobenzene	100	25																								
Styrene	100	80																								
Ethylbenzene	74	18																								
Total Xylenes	280	41																								
1,2 -Dichlorobenzene	600	13																								
1,2,4-Trimethylbenzene	63	17																								
1,2,3-Trimethylbenzene	NC	NC																								
Naphthalene	520	11																								
2-Methylnaphthalene	260	19																								
Diethyl ether	10 (E)	ID																								
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)																								
Acrylonitrile	2.6	2.0 (M); 1.2																								
Dichlorodifluoromethane	1,700	ID																								
Bromomethane	10	35																								
1,2-Dichloroethane	5.0 (A)	360 (X)																								
Trichloroethene	5.0 (A)	200 (X)																								
1,2-Dichloropropane	5.0 (A)	230 (X)																								
cis-1,3-Dichloropropene	NC	NC																								
trans-1,3-Dichloropropene	NC	NC																								
1,1,2-Trichloroethano	5.0 (A)	330 (X)																								
trans-1,4-Dichloro-2-butene	NC	NC																								
Dibromochloromethane	80 (A,W)	ID																								
1,2-Dibromoethano	NC	NC																								
1,1,1,2-Tetrachloroethane	77	ID																								
Isopropylbenzene	800	28																								
Bromoform	80 (A,W)	ID																								
1,1,2,2-Tetrachloroethane	8.5	78 (X)																								
1,2,3-Trichloropropane	42	NA																								
n-Propylbenzene	80	ID																								
Bromobenzene	18	NA																								
1,3,5-Trimethylbenzene	72 (E)	45																								
tert-Butylbenzene	80	ID																								
1,2,4-Trimethylbenzene	63 (E)	17																								
1,2,3-Trichlorobenzeno	NC	NC																								

NOTES:

	Blank cells indicate no detectable concentrations
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
NC	Insufficient data to develop criterion/no criterion
G	Groundwator to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River
NS	No Sample
1	Filtered in lab
2	Filtered and preserved in lab
NA	Not analyzed due to turbidity

Derected Concentrations for compounds also found in the method blank that appear to be laboratory artifacts are not provided.

Table 1
GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990
As Erronously Labeled in May 23, 2016 Laboratory Report

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank	Trip Blank	Field Blank	Dup1	Trip Blank	Field Blank	Dup2	Dup3
	Date Collected			NS	6/13/17	6/13/17	6/13/17	6/13/17	6/13/17	6/13/17	6/13/17	NS	NS	NS	6/13/17	6/13/17	NS	6/13/17	6/13/17			6/13/17				
ANALYTE (ug/L)	**DW**	GSI																								
Arsenic (dissolved)	10	10			0.85		9.00	0.41	0.64	0.58		**NS**	**NS**	**NS**	1.37	**82.00**	**NS**					**84.000**				
Arsenic	10	10			0.63	3.00	**13.00**	0.53	0.56	1.11	0.44	**NS**	**NS**	**NS**	1.45	**126.00**	**NS**					**123.000**				
Chromium (dissolved)	100	160	G		1.57	12.00	0.22	28.00	37.00	100.00	0.16	**NS**	**NS**	**NS**	2.69	0.34	**NS**					0.62				
Chromium (total)	100	160	G		21	72.00	1.50	**1640.00**	**776.00**	**2500.00**		**NS**	**NS**	**NS**	7.00	0.37	**NS**					0.7				
Chromium VI (dissolved)	100	160				8.00	0.86					**NS**	**NS**	**NS**			**NS**									
Chromium VI (total)	100	160				6.00						**NS**	**NS**	**NS**			**NS**									
Copper (dissolved)	1000	20	G		0.59	1.56	0.86	6.00	2.38	4.31	1.61	**NS**	**NS**	**NS**	1.34		**NS**					0.4				
Copper	1000	20	G		2.47	8.00	1.81	33.00	8.00	28.00	1.60	**NS**	**NS**	**NS**	1.38		**NS**					0.62				
Lead (dissolved)	4	44	G			0.15	0.09		0.06	0.18	0.13	**NS**	**NS**	**NS**	0.21	0.06	**NS**									
Lead	4	44	G		0.547	2.82	0.53	0.14	0.22	0.76	0.14	**NS**	**NS**	**NS**	0.96	0.08	**NS**					0.066				
Selenium (dissolved)	50	5										**NS**	**NS**	**NS**			**NS**									
Selenium	50	5										**NS**	**NS**	**NS**			**NS**									
Zinc (dissolved)	2400	260	G		1.69	2.09	2.48	3.13	5.00	2.20	4.41	**NS**	**NS**	**NS**	1.72	2.22	**NS**					2.25				
Zinc	2400	260	G		3.16	9.00	3.22	2.59	13.00	4.68	3.01	**NS**	**NS**	**NS**	2.54	4.07	**NS**					5				

	Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Trip Blank	Field Blank	Trip Blank	Field Blank	Dup1	Trip Blank	Field Blank	Dup3	Dup3
	Date Collected			6/13/17	6/13/17	6/13/17	6/13/17	6/13/17	6/13/17	6/13/17	6/13/17	NS	NS	NS	6/13/17	6/13/17	NS	6/13/17	6/13/17			6/13/17				
ANALYTE (ug/L)	**DW**	GSI																								
Acetone	730	1,700		**NS**	4.29	2.15	3.86	2.50	4.15	2.26	2.40	**NS**	**NS**	**NS**	4.31	5.87	**NS**	3.04	5.67			4.61				
Methyl iodide	NC	NC		**NS**								**NS**	**NS**	**NS**			**NS**									
Carbon disulfide	800	NC		**NS**								**NS**	**NS**	**NS**			**NS**									
2 Butanone (MEK)	13,000	2,200		**NS**	0.89							**NS**	**NS**	**NS**	0.80	2.00	**NS**		0.9			1.37				
Chloromethane	260	NC		**NS**								**NS**	**NS**	**NS**			**NS**									
Vinyl Chloride	2.0	13		**NS**								**NS**	**NS**	**NS**		**10.00**	**NS**					**12**				
Chloroethane	430	1,100		**NS**								**NS**	**NS**	**NS**		1.59	**NS**					2.05				
trichlorofluoromethane	2,600	NA		**NS**	0.56							**NS**	**NS**	**NS**			**NS**									
1,1-Dichloroethene	7.0	130		**NS**								**NS**	**NS**	**NS**		1.00	**NS**					2				
Methylene Chloride	5.0	1,500		**NS**								**NS**	**NS**	**NS**		0.35	**NS**		0.31			0.41				
trans-1,2-Dichloroethene	100	1,500		**NS**								**NS**	**NS**	**NS**		0.39	**NS**					0.53				
1,1-Dichloroethane	880	740		**NS**								**NS**	**NS**	**NS**		1.00	**NS**					1				
cis-1,2-Dichloroethene	70	620		**NS**								**NS**	**NS**	**NS**		4.00	**NS**					6				
Tetrahydrofuran	95	11,000		**NS**								**NS**	**NS**	**NS**			**NS**									
Chloroform	80	350		**NS**				1.00				**NS**	**NS**	**NS**			**NS**		11.000							
1,1,1-Trichloroethane	200	89		**NS**								**NS**	**NS**	**NS**			**NS**									
4-Methyl-2-pentanone (MIBK)	1800	ID		**NS**							0.15	**NS**	**NS**	**NS**		0.75	**NS**									
2-Hexanone	1000	ID		**NS**								**NS**	**NS**	**NS**		0.97	**NS**									
Carbontetrachloride	5.0	45		**NS**								**NS**	**NS**	**NS**			**NS**									
Benzene	5.0	200		**NS**								**NS**	**NS**	**NS**		0.20	**NS**									
Bromodichloromethane	80.0	NC		**NS**				0.55				**NS**	**NS**	**NS**			**NS**		2.00							
Trichloroethene	5.0	200		**NS**	0.97	0.74					0.25	**NS**	**NS**	**NS**	3.00	**10.00**	**NS**					**15**				
Toluene	790	270		**NS**								**NS**	**NS**	**NS**			**NS**									
Tetrachloroethene	5.0	60		**NS**					**29.00**			**NS**	**NS**	**NS**			**NS**									
Chlorobenzene	100	25		**NS**								**NS**	**NS**	**NS**			**NS**									
Styrene	100	80		**NS**								**NS**	**NS**	**NS**			**NS**									
Ethylbenzene	74	18		**NS**								**NS**	**NS**	**NS**			**NS**									
Total Xylenes	280	41		**NS**								**NS**	**NS**	**NS**			**NS**									
1,2 -Dichlorobenzene	600	13		**NS**								**NS**	**NS**	**NS**			**NS**									
1,2,4-Trimethylbenzene	63	17		**NS**								**NS**	**NS**	**NS**			**NS**									
1,2,3-Trimethylbenzene	NC	NC		**NS**								**NS**	**NS**	**NS**			**NS**									
Naphthalene	520	11		**NS**								**NS**	**NS**	**NS**			**NS**									
2-Methylnaphthalene	260	19		**NS**								**NS**	**NS**	**NS**	**1.40**		**NS**									
Diethyl ether	10 (E)	ID		**NS**								**NS**	**NS**	**NS**			**NS**									
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)		**NS**								**NS**	**NS**	**NS**			**NS**									
Acrylonitrile	2.6	2.0 (M); 1.2		**NS**								**NS**	**NS**	**NS**			**NS**									
Dichlorodifluoromethane	1,700	ID		**NS**								**NS**	**NS**	**NS**			**NS**		0.32							
Bromomethane	10	35		**NS**								**NS**	**NS**	**NS**			**NS**									
1,2-Dichloroethane	5.0 (A)	360 (X)		**NS**								**NS**	**NS**	**NS**			**NS**									
Trichloroethene	5.0 (A)	200 (X)		**NS**								**NS**	**NS**	**NS**			**NS**									
1,2-Dichloropropane	5.0 (A)	230 (X)		**NS**								**NS**	**NS**	**NS**			**NS**									
cis-1,3-Dichloropropene	NC	NC		**NS**								**NS**	**NS**	**NS**			**NS**									
trans-1,3-Dichloropropene	NC	NC		**NS**								**NS**	**NS**	**NS**			**NS**									
1,1,2-Trichloroethane	5.0 (A)	330 (X)		**NS**								**NS**	**NS**	**NS**			**NS**									
trans-1,4-Dichloro-2-butene	NC	NC		**NS**								**NS**	**NS**	**NS**			**NS**									
Dibromochloromethane	80 (A,W)	ID		**NS**								**NS**	**NS**	**NS**			**NS**									
1,2-Dibromoethane	NC	NC		**NS**								**NS**	**NS**	**NS**			**NS**									
1,1,1,2-Tetrachloroethane	77	ID		**NS**								**NS**	**NS**	**NS**			**NS**									
Isopropylbenzene	800	28		**NS**								**NS**	**NS**	**NS**			**NS**									
Bromoform	80 (A,W)	ID		**NS**								**NS**	**NS**	**NS**			**NS**									
1,1,2,2-Tetrachloroethane	8.5	78 (X)		**NS**								**NS**	**NS**	**NS**			**NS**									
1,2,3-Trichloropropane	42	NA		**NS**								**NS**	**NS**	**NS**			**NS**									
n-Propylbenzene	80	ID		**NS**								**NS**	**NS**	**NS**	**0.30**		**NS**									
Bromobenzene	18	NA		**NS**								**NS**	**NS**	**NS**			**NS**									
1,3,5-Trimethylbenzene	72 (E)	45		**NS**								**NS**	**NS**	**NS**			**NS**									
tert-Butylbenzene	80	ID		**NS**								**NS**	**NS**	**NS**			**NS**									
1,2,4-Trimethylbenzene	63 (E)	17		**NS**								**NS**	**NS**	**NS**			**NS**									
1,2,3-Trichlorobenzene	NC	NC		**NS**								**NS**	**NS**	**NS**			**NS**									
n-Butylbenzene	NC	NC		**NS**								**NS**	**NS**	**NS**	**0.270**		**NS**									

NOTES:

	Blank cells indicate no detectable concentrations	Blank cells indicate no detectable concentrations
X	Exceeds DW criteria	Exceeds DW criteria
X	Exceeds GSI criteria	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria	Exceeds both DW and GSI criteria
X	Compound also found in associated method blank, suggestin	Compound also found in associated method blank, suggesting a laboratory artifact.
NC	Insufficient data to develop criterion/no criterion	Insufficient data to develop criterion/no criterion
G	Groundwater to Surface Water Interface Criteria - calculated	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

Sample ID				MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Field Dupe	Trip Blank	Field Blank	Equip Blank
Date Collected				1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18
METALS ANALYTE (ug/L)	**DW**	GSI																				
Arsenic (dissolved)	10	10			2	1.094	**29**	<2	<2		0.548				4	**100**		**108**			
Arsenic	10	10			3	3	**34**	<2	<2		<2				10	**129**		**131**			
Chromium (dissolved)	100	160	G		41	9	<5	86	13		<5				37	1.217		0.537			
Chromium (total)	100	160	G		**244**	28	<5	**1,740**	**141**		<5				68	1.540		0.4368			
Chromium VI (dissolved)	100	160			<10	<10	<10	<10	<10		<10				<10	<10		<10			
Chromium VI (total)	100	160			<10	<10	<20	<10	<10		<10				<10	<20		<20			
Copper (dissolved)	1000	20	G		5	2.446	0.908	5	1.182		1.134				3.403	0.547		0.555			
Copper	1000	20	G		**21**	4.359	0.736	**34**	3.337		1.057				7	1.333		1.671			
Lead (dissolved)	4	44	G		1.836	1.058	<3	<3	<3		<3				2.084	<3		<3			
Lead	4	44	G		4	3	<3	0.739	<3		<3				**6**	<3		1.217			
Selenium (dissolved)	50	5			2	4	<5	2	**8**		1				1	1		1			
Selenium	50	5			2	4	<5	2	**11**		1				1	<5		1			
Zinc (dissolved)	2400	260	G		8	5	1.90	<5	2		2.24				7	2.480		2.5			
Zinc	2400	260	G		18	11	2.55	14	2.31		1.55				12	6		15			
VOC ANALYTE (ug/L)	**DW**	GSI																				
Acetone	730	1,700																		6.3	6.4
Methyl iodide	NC	NC																			
Carbon disulfide	800	NC																			
2 Butanone (MEK)	13,000	2,200																			
Chloromethane	260	NC																			
Vinyl Chloride	2.0	13					0.29				0.77					2		1			
Chloroethane	430	1,100																0.31			
trichlorofluoromethane	2,600	NA																			
1,1-Dichloroethene	7.0	130													0.31						
Methylene Chloride	5.0	1,500																			
trans-1,2-Dichloroethene	100	1,500													0.16						
1,1-Dichloroethane	880	740									0.97				2	0.70		0.75			
cis-1,2-Dichloroethene	70	620									2.00				51	3		2			
Tetrahydrofuran	95	11,000																			
Chloroform	80	350						2.00							0.24						
1,1,1-Trichloroethane	200	89																			
4-Methyl-2-pentanone (MIBK)	1800	ID																0.410			
2-Hexanone	1000	ID																0.95			
Carbon tetrachloride	5.0	45																			
Benzene	5.0	200					0.20				0.18										
Bromodichloromethane	80.0	NC						0.68													
Trichloroethene	5.0	200			3						5.00				**30**	2		0.83			
Toluene	790	270																			
Tetrachloroethene	5.0	60							**43**												
Chlorobenzene	100	25																			
Styrene	100	80																			

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

		Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Field Dupe	Trip Blank	Field Blank	Equip Blank
		Date Collected	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18
VOC ANALYTE (ug/L) {cont}	**DW**	GSI																		
Ethylbenzene	74	18																		
Total Xylenes	280	41																		
1,2 -Dichlorobenzene	600	13																		
1,3 -Dichlorobenzene	6.6	28		0.36	0.46	0.43		0.23						0.30	0.30		0.26			
1,2,4-Trimethylbenzene	63	17																		
1,2,3-Trimethylbenzene	NC	NC																		
Naphthalene	520	11																		
2-Methylnaphthalene	260	19																		
Diethyl ether	10 (E)	ID																		
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)																		
Acrylonitrile	2.6	2.0 (M); 1.2																		
Dichlorodifluoromethane	1,700	ID																		
Bromomethane	10	35																		
1,2-Dichloroethane	5.0 (A)	360 (X)																		
Trichloroethene	5.0 (A)	200 (X)																		
1,2-Dichloropropane	5.0 (A)	230 (X)																		
cis-1,3-Dichloropropene	NC	NC																		
trans-1,3-Dichloropropene	NC	NC																		
1,1,2-Trichloroethane	5.0 (A)	330 (X)																		
trans-1,4-Dichloro-2-butene	NC	NC																		
Dibromochloromethane	80 (A,W)	ID																		
1,2-Dibromoethane	NC	NC																		
1,1,1,2-Tetrachloroethane	77	ID																		
Isopropylbenzene	800	28																		
Bromoform	80 (A,W)	ID																		
1,1,2,2-Tetrachloroethane	8.5	78 (X)																		
1,2,3-Trichloropropane	42	NA																		
n-Propylbenzene	80	ID																		
Bromobenzene	18	NA																		
1,3,5-Trimethylbenzene	72 (E)	45																		
tert-Butylbenzene	80	ID																		
1,2,4-Trimethylbenzene	63 (E)	17																		
1,2,3-Trichlorobenzene	NC	NC																		
n-Butylbenzene	NC	NC																		
1,4-Dioxane (EPA8260)	7.2	2,800 (X)																		

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Field Dupe	Trip Blank	Field Blank	Equip Blank
Date Collected			1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18	1/28/18
PFA ANALYTE (ng/L)	**DW**	GSI																		
Perfluorobutanesulfonic acid (PFBS)	NC	NC														8.1		5.3			
Perfluorohexanesulfonic acid (PFHxS)	NC	NC													1.9						
Perfluoroheptanesulfonic Acid (PFHpS)	NC	NC																			
Perfluorooctanesulfonic acid (PFOS)	CC	12 (X)			35	7									44	16		16			
Perfluorodecanesulfonic acid (PFDS)	NC	NC																			
Perfluorobutanoic acid (PFBA)	NC	NC			3.1	4.8									4.8	180		180			
Perfluoropentanoic acid (PFPeA)	NC	NC				2.3															
Perfluorohexanoic acid (PFHxA)	NC	NC				2.5									2.6						
Perfluoroheptanoic acid (PFHpA)	NC	NC																			
Perfluorooctanoic acid (PFOA)	CC	12,000 (X)			4.4	4.1									6.1	4.2		4			
Perfluorononanoic acid (PFNA)	NC	NC																			
Perfluorodecanoic acid (PFDA)	NC	NC																			
Perfluoroundecanoic acid (PFUnA)	NC	NC																			
Perfluorododecanoic acid (PFDoA)	NC	NC																			
Perfluorotridecanoic Acid (PFTriA)	NC	NC																			
Perfluorotetradecanoic acid (PFTeA)	NC	NC																			
Perfluorooctane Sulfonamide (FOSA)	NC	NC																			

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 due to turbidity	NA
Combined PFOA and PFOS concentrations compared to 0.070 ppb (70 ppt) for the drinking water pathway.	CC

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

				Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Field Dupe	Trip Blank	Field Blank	Equip Blank
				Date Collected	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18		5/29/18	5/29/18
METALS ANALYTE (ug/L)	**DW**	GSI			**DRY**				**DRY**		**DRY**		**NS**	**NS**	**NS**			**NS**	**MW-102S**			
Arsenic (dissolved)	10	10						1.41									**23**					
Arsenic	10	10						9									**60**					
Chromium (dissolved)	100	160	G			1.62	14	0.168		1.01		0.328				4.13	0.431		14			
Chromium (total)	100	160	G			2.64	14	0.276		44		0.208				4.17	0.296		14			0.095
Chromium VI (dissolved)	100	160																				
Chromium VI (total)	100	160																				
Copper (dissolved)	1000	20	G			0.381	0.498			0.816		1.73				0.611			0.469			
Copper	1000	20	G			0.748	0.341			1.78		1.43				2.42						
Lead (dissolved)	4	44	G																			
Lead	4	44	G			0.408		0.068		0.304		0.121				0.067	0.062					
Selenium (dissolved)	50	5																				
Selenium	50	5																				
Zinc (dissolved)	2400	260	G			6	8	7		8		12				15	8		9			
Zinc	2400	260	G			6	7	8		7		8				6	4.76		9			1.79
VOC ANALYTE (ug/L)	**DW**	GSI																				
Acetone	730	1,700				5	4.5	6.4		5.6						5.9	8.2		5.6	4.8		8.4
Methyl iodide	NC	NC																				
Carbon disulfide	800	NC																				
2 Butanone (MEK)	13,000	2,200																				
Chloromethane	260	NC																				
Vinyl Chloride	2.0	13															**9**					
Chloroethane	430	1,100																				
trichlorofluoromethane	2,600	NA																				
1,1-Dichloroethene	7.0	130															1					
Methylene Chloride	5.0	1,500															0.17					
trans-1,2-Dichloroethene	100	1,500															0.25					
1,1-Dichloroethane	880	740															1					
cis-1,2-Dichloroethene	70	620															3					
Tetrahydrofuran	95	11,000																			4.8	
Chloroform	80	350																				0.46
1,1,1-Trichloroethane	200	89																				
4-Methyl-2-pentanone (MIBK)	1800	ID																				
2-Hexanone	1000	ID																				
Carbon tetrachloride	5.0	38 (X)																				
Benzene	5.0	200															0.20					
Bromodichloromethane	80.0	NC																				
Trichloroethene	5.0	200				1	0.67									**7**	**13**		0.7			
Toluene	790	270					0.39															
Tetrachloroethene	5.0	60								**45**												
Chlorobenzene	100	25																				
Styrene	100	80																				

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

		Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Field Dupe	Trip Blank	Field Blank	Equip Blank
		Date Collected	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18		5/29/18	5/29/18
VOC ANALYTE (ug/L) {cont}	**DW**	GSI																		
Ethylbenzene	74	18																		
Total Xylenes	280	49																		
1,2 -Dichlorobenzene	600	13																		
1,3 -Dichlorobenzene	6.6	28				0.23														
1,2,4-Trimethylbenzene	63	17																		
1,2,3-Trimethylbenzene	NC	NC																		
Naphthalene	520	11			0.21															
2-Methylnaphthalene	260	19																		
Diethyl ether	10 (E)	ID																		
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)																		
Acrylonitrile	2.6	2.0 (M); 1.2																		
Dichlorodifluoromethane	1,700	ID																		
Bromomethane	10	4.2; [5(M)]																		
1,2-Dichloroethane	5.0 (A)	360 (X)																		
Trichloroethene	5.0 (A)	200 (X)																		
1,2-Dichloropropane	5.0 (A)	230 (X)																		
cis-1,3-Dichloropropene	NC	NC																		
trans-1,3-Dichloropropene	NC	NC																		
1,1,2-Trichloroethane	5.0 (A)	330 (X)																		
trans-1,4-Dichloro-2-butene	NC	NC																		
Dibromochloromethane	80 (A,W)	ID																		
1,2-Dibromoethane	NC	NC																		
1,1,1,2-Tetrachloroethane	77	ID																		
Isopropylbenzene	800	28																		
Bromoform	80 (A,W)	ID																		
1,1,2,2-Tetrachloroethane	8.5	78 (X)																		
1,2,3-Trichloropropane	42	NA																		
n-Propylbenzene	80	ID																		
Bromobenzene	18	NA																		
1,3,5-Trimethylbenzene	72 (E)	45																		
tert-Butylbenzene	80	ID																		
1,2,4-Trimethylbenzene	63 (E)	17																		
1,2,3-Trichlorobenzene	NC	NC																		
n-Butylbenzene	NC	NC																		
1,4-Dioxane (EPA SIM8270)	7.2	2,800 (X)														0.13		0.025	0.025		

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

		Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	Field Dupe	Trip Blank	Field Blank	Equip Blank
		Date Collected	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18	5/29/18		5/29/18	5/29/18
PFA ANALYTE (ng/L)	**DW**	GSI																		
Perfluorobutane sulfonic acid (PFBS)	NC	NC			1.3												1.2			
Perfluoropentane sulfonic acid (PFPeS)	NC	NC																		
Perfluorohexane sulfonic acid (PFHxS)	NC	NC		1.4	2									1.6			2			
Perfluoroheptane sulfonic acid (PFHpS)	NC	NC			0.18												1.1			
Perfluorooctane sulfonic acid (PFOS)	CC	12 (X)		12	12									47	27		12			
Perfluorononane sulfonic acid (PFNS)	NC	NC																		
Perfluorodecane sulfonic acid (PFDS)	NC	NC																		
Perfluorobutanoic acid (PFBA)	NC	NC													41					
Perfluoropentanoic acid (PFPeA)	NC	NC			1.2										1.7					
Perfluorohexanoic acid (PFHxA)	NC	NC			1.8												2.5			
Perfluoroheptanoic acid (PFHpA)	NC	NC			1.7															
Perfluorooctanoic acid (PFOA)	CC	12,000 (X)		2	4.2									1.7	2.5		4.3			
Perfluorononanoic acid (PFNA)	NC	NC		1.1	1										1.8					
Perfluorodecanoic acid (PFDA)	NC	NC																		
Perfluoroundecanoic acid (PFUnDA)	NC	NC													0.61					
Perfluorododecanoic acid (PFDoDA)	NC	NC		0.51																
Perfluorotridecanoic acid (PFTrDA)	NC	NC		0.82										0.78	0.85				0.94	1.1
Perfluorotetradecanoic acid (PFTeDA)	NC	NC		1.4	1.2															
Perfluorooctane sulfonamide (FOSA)	NC	NC																		
N-Methyl perfluorooctane sulfonamidoacetic acid	NC	NC																		
N-Ethyl perfluorooctane sulfonamidoacetic acid	NC	NC																		
Fluorotelomer sulfonic acid (4:2 FTS)	NC	NC																		
Fluorotelomer sulfonic acid (6:2 FTS)	NC	NC																		
Fluorotelomer sulfonic acid (8:2 FTS)	NC	NC																		

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 due to turbidity	NA
Combined PFOA and PFOS concentrations compared to 0.070 ppb (70 ppt) for the drinking water pathway.	CC

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

				Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Field Dup (Dup-1)	Field Dup (Dup-2)	Trip Blank	Trip Blank	Field Blank	Field Blank (FB2)	Equip Blank	Equip Blank
				Date Collected	9/5/18	9/5/18	8/30/18	9/5/18	9/5/18	9/5/18	9/5/18	8/30/18	8/30/18	9/5/18	8/30/18	8/30/18	9/5/18	8/30/18	9/5/18	9/5/18	9/5/18	9/5/18	8/30/18	9/5/18	8/30/18	9/5/18	8/30/18	9/5/18
METALS ANALYTE (ug/L)	**DW**	GSI																		**MW-104S**	**MW-109S**						
Arsenic (dissolved)	10	10						**19**						4	1		**52**		1		3				1		1
Arsenic	10	10						**53**		1	1			5	3		**104**		2		5				1		1
Chromium (dissolved)	100	160	G		1				10	1	6				1	4		1	7	1							
Chromium (total)	100	160	G		2	6			**388**	62	**789**				1			1	9	13							
Chromium VI (dissolved)	100	160				1																					
Chromium VI	100	160														5			6								
Copper (dissolved)	1000	20	G	1	1	1		2	1	4	2	1	1	7	1		1	2	1								
Copper	1000	20	G		1	1		13	2	23	1	1	1		1		1	3	1								
Lead (dissolved)	4	44	G																								
Lead	4	44	G						1	1																	
Selenium (dissolved)	50	5		1	4	2	3	3	**8**	1		2	4		5	1		1	9	2				1		1
Selenium	50	5		2	4	4	4	3	**9**	5		4	1	3	2	3	3	3	6	2			1	1		1
Zinc (dissolved)	2400	260	G	2	4	3	1	3	2	2	4	3	3	5	6	2	5	4	1	2			2	2	1	1
Zinc	2400	260	G	3	2	5	2	5	2	6	2	4	5	3	2	4	5	3	1	2			1	1	1	1
VOC ANALYTE (ug/L)	**DW**	GSI																									
Acetone	730	1,700			2.55	2.72	5.20	0.81	1.12	0.63	0.61		2.32			4.98	2.11	18.6		2.75	5.13	4.54	1.26	7.48	1.74	7.35
Methyl iodide	NC	NC																									
Carbon disulfide	800	NC																									
2 Butanone (MEK)	13,000	2,200					1.14									1.09								0.32	2.48	
Chloromethane	260	NC																			1.92						
Vinyl Chloride	2.0	13											42			5		9.5		**41**							
Chloroethane	430	1,100																									
trichlorofluoromethane	2,600	NA																									
1,1-Dichloroethene	7.0	130											2			0.66											
Methylene Chloride	5.0	1,500																									
trans-1,2-Dichloroethene	100	1,500											0.7							0.66							
1,1-Dichloroethane	880	740											1		0.27	0.63		3.6		1							
cis-1,2-Dichloroethene	70	620		9							0.34		68		5	2		490	0.36	65							
Tetrahydrofuran	95	11,000																16									
Chloroform	80	350						1				1												0.4	0.4	0.3
1,1,1-Trichloroethane	200	89																									
4-Methyl-2-pentanone (MIBK)	1800	ID																									
2-Hexanone	1000	ID																									
Carbon tetrachloride	5.0	38 (X)										4															
Benzene	5.0	200					0.67																				
Bromodichloromethane	80.0	NC						0.5																	0.35		
Trichloroethene	5.0	200		4	4	0.39					1		17		12	7	1	210		17							
Toluene	790	270																									
Tetrachloroethene	5.0	60							40										40	0.22							
Chlorobenzene	100	25																									
Styrene	100	80																									

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

		Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Field Dup (Dup-1)	Field Dup (Dup-2)	Trip Blank	Trip Blank	Field Blank	Field Blank (FB2)	Equip Blank	Equip Blank
		Date Collected	9/5/18	9/5/18	8/30/18	9/5/18	9/5/18	9/5/18	9/5/18	8/30/18	8/30/18	9/5/18	8/30/18	8/30/18	9/5/18	8/30/18	9/5/18	9/5/18	9/5/18	8/30/18	9/5/18	8/30/18	9/5/18	8/30/18	9/5/18
VOC ANALYTE (ug/L) {cont}	**DW**	GSI																							
Ethylbenzene	74	18																							
Total Xylenes	280	49																							
1,2 -Dichlorobenzene	600	13																							
1,3 -Dichlorobenzene	6.6	28																							
Naphthalene	520	11																							
2-Methylnaphthalene	260	19																	0.23						
Diethyl ether	10 (E)	ID																							
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)																							
Acrylonitrile	2.6	2.0 (M); 1.2																							
Dichlorodifluoromethane	1,700	ID																							
Bromomethane	10	4.2; [5(M)]																							
1,2-Dichloroethane	5.0 (A)	360 (X)																							
Trichloroethene	5.0 (A)	200 (X)																							
1,2-Dichloropropane	5.0 (A)	230 (X)																							
cis-1,3-Dichloropropene	NC	NC																							
trans-1,3-Dichloropropene	NC	NC																							
1,1,2-Trichloroethane	5.0 (A)	330 (X)																							
trans-1,4-Dichloro-2-butene	NC	NC																							
Dibromochloromethane	80 (A,W)	ID																							
1,2-Dibromoethane	NC	NC																							
1,1,1,2-Tetrachloroethane	77	ID																							
Isopropylbenzene	800	28																							
Bromoform	80 (A,W)	ID																							
1,1,2,2-Tetrachloroethane	8.5	78 (X)																							
1,2,3-Trichloropropane	42	NA																							
n-Propylbenzene	80	ID																							
Bromobenzene	18	NA																							
1,3,5-Trimethylbenzene	72 (E)	45																							
tert-Butylbenzene	80	ID																							
1,2,4-Trimethylbenzene	63 (E)	17																							
1,2,4-Trichlorobenzene	NC	NC																					0.21		
1,2,3-Trichlorobenzene	NC	NC																					0.21		
n-Butylbenzene	NC	NC																							

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

		Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Field Dup (Dup-1)	Field Dup (Dup-2)	Trip Blank	Trip Blank	Field Blank	Field Blank (FB2)	Equip Blank	Equip Blank
		Date Collected	9/5/18	9/5/18	8/30/18	9/5/18	9/5/18	9/5/18	9/5/18	8/30/18	8/30/18	9/5/18	8/30/18	8/30/18	9/5/18	8/30/18	9/5/18	9/5/18	9/5/18	8/30/18	9/5/18	8/30/18	9/5/18	8/30/18	9/5/18
PFA ANALYTE (ng/L)	**DW**	GSI																							
Perfluorobutane sulfonic acid (PFBS)	NC	NC	2.5	1.4	2	2.2	1.3	1.8	4.6		1.7	2.9	3.6	2.4	1.4	5	1.7	2.3	1.7						
Perfluoropentane sulfonic acid (PFPeS)	NC	NC																							
Perfluorohexane sulfonic acid (PFHxS)	NC	NC	4	1.9	6.1		2.1	12	3.3	2.7	2.9	3.2	4.3	3.8		2.6	2.4	12	2.6						
Perfluoroheptane sulfonic acid (PFHpS)	NC	NC	1.4	1.2	2.4			2.5	1.3			2.6						2.1							
Perfluorooctane sulfonic acid (PFOS)	CC	12	20	33	11	91			7.3	18	6	27	8.5	59	10	13	26		30						
Perfluorononane sulfonic acid (PFNS)	NC	NC																							
Perfluorodecane sulfonic acid (PFDS)	NC	NC																							
Perfluorobutanoic acid (PFBA)	NC	NC		3.8	3.2			3.2	5.9			2.9	6.7		48	7.1	2.7		3.2						
Perfluoropentanoic acid (PFPeA)	NC	NC		1.2	1.4				1.1				3	1.3			3.6								
Perfluorohexanoic acid (PFHxA)	NC	NC	1	1.5	4.1		1.2	1.6	2			1.7	4.8			1	3.3	1.7			1.3		1.6		1.2
Perfluoroheptanoic acid (PFHpA)	NC	NC			2				2				3.7			1.3	3.3	2.4							
Perfluorooctanoic acid (PFOA)	CC	12,000	2	4.5	6.1	2.6	0.79	4.5	12	2.1	0.58	2.6	11	1.7	2.2	2.6	4.3	4.1	2.8						
Perfluorononanoic acid (PFNA)	NC	NC		1.2		1.1						1.2					1.3		1.1						
Perfluorodecanoic acid (PFDA)	NC	NC				0.53			0.58																
Perfluoroundecanoic acid (PFUnDA)	NC	NC																							
Perfluorododecanoic acid (PFDoDA)	NC	NC																							
Perfluorotridecanoic acid (PFTrDA)	NC	NC																							
Perfluorotetradecanoic acid (PFTeDA)	NC	NC					1.6		2.8			1.7					1.9				3.3		1.8	1.9	1.7
Perfluorooctane sulfonamide (FOSA)	NC	NC																					0.44		
N-Methyl perfluorooctane sulfonamidoacetic acid	NC	NC																							
N-Ethyl perfluorooctane sulfonamidoacetic acid	NC	NC				0.9																			
Fluorotelomer sulfonic acid (4:2 FTS)	NC	NC																							
Fluorotelomer sulfonic acid (6:2 FTS)	NC	NC																							
Fluorotelomer sulfonic acid (8:2 FTS)	NC	NC																							

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 due to turbidity	NA
Combined PFOA and PFOS concentrations compared to 0.070 ppb (70 ppt) for the drinking water pathway.	CC

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

Sample ID				MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Field Dup (Dupe-1)	Field Dup (Dupe-2)	Trip Blank	Field Blank	Field Blank	Equip Blank
Date Collected				DRY	DRY	02/27/19	02/28/19	02/27/19	02/27/19	NS	02/27/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/27/19	02/28/19	02/28/19
METALS ANALYTE (ug/L)	**DW**	GSI																	**MW-112S**	**MW-114S**				
Arsenic (dissolved)	10	10					10				0.711	0.445	2	1.05	0.317	**35**	1.11	**28**	9	**20**				
Arsenic	10	10					**30**				0.33	0.265	**39**	1.952	0.759	**102**	**13**	**86**	0.101	**80**				
Chromium (dissolved)	100	160	G			2.604	0.103	0.105	1.711			0.155	0.246	0.172	4.979	0.357	1.61	0.172	0.436			0.131		0.052
Chromium (total)	100	160	G			4.664	0.251	43	65			0.354	0.6	0.522	4.651	0.507	13	0.258	0.417	0.412		0.175	0.748	0.655
Chromium VI (dissolved)	100	160																						
Chromium VI	100	160																						
Copper (dissolved)	1000	20	G			0.937		1.208	1.375		1.733	0.993		0.704	1.32		1.34	0.823		0.434		1.685	1.53	1.47
Copper	1000	20	G			0.679		1.871	2.247		1.124	0.979	0.381	0.963	0.691		3.06	1.92		2.25		2.092	1.59	1.24
Lead (dissolved)	4	44	G								0.706													
Lead	4	44	G									0.23	0.206				1.14	0.191		0.208				
Selenium (dissolved)	50	5				2		4	8			3												
Selenium	50	5				3		4	9			0												
Zinc (dissolved)	2400	260	G			7	3.45	1	5		11	6	3	3	7	4	8	4	3	3		4	6	7
Zinc	2400	260	G			1.482		0.892	1.577		7	2.24	2.19	1.61	0.776	0.774	13	3.98		5		1.814	2.27	0.962
VOC ANALYTE (ug/L)	**DW**	GSI																						
Acetone	730	1,700				7.88		8.1	6.7		7.8	7.6	9.51	9.07	8.79	12.41	11.34	33.8	11.74	35.1	6.99	7.3	9.10	9.36
Methyl iodide	NC	NC																						
Carbon disulfide	800	NC																						
2 Butanone (MEK)	13,000	2,200					3.13						0.34	0.3	0.33	1.61	1.95	11.1	1.63	11.9	0.64		0.78	0.77
Chloromethane	260	NC																						
Vinyl Chloride	2	13					0.64				0.88		**5**			2	1	**12**	2	**12**				
Chloroethane	430	1,100																						
trichlorofluoromethane	2,600	NA																						
1,1-Dichloroethene	7	130											0.6			0.41			0.38					
Methylene Chloride	5	1,500																						
trans-1,2-Dichloroethene	100	1,500											0.41					1.9		1.80				
1,1-Dichloroethane	880	740									0.55		0.97		0.76	0.82		3.2	0.79	3.5				
cis-1,2-Dichloroethene	70	620									2		9		13	2	2	**295**	1	**290**				
Tetrahydrofuran	95	11,000					2.3										1.9	11.1		11.9				
Chloroform	80	350						2				1			0.25									
1,1,1-Trichloroethane	200	89																		1.7				
4-Methyl-2-pentanone (MIBK)	1800	ID														0.31			0.38					
2-Hexanone	1000	ID																						
Carbon tetrachloride	5.0	38	X									2												
Benzene	5.0	200					1				0.24													
Bromodichloromethane	80.0	NC						0.25																
Trichloroethene	5.0	200									1	0.25	**13**		**39**	3	**9**	**162**	3	**163**				
Toluene	790	270					0.32																	
Tetrachloroethene	5.0	60							**78**															
Chlorobenzene	100	25					2																	
Styrene	100	80														0.58	0.28		0.64					

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

		Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Field Dup (Dupe-1)	Field Dup (Dupe-2)	Trip Blank	Field Blank	Field Blank	Equip Blank
		Date Collected	DRY	DRY	02/27/19	02/28/19	02/27/19	02/27/19	NS	02/27/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/27/19	02/28/19	02/28/19
VOC ANALYTE (ug/L) {cont}	**DW**	GSI																					
Ethylbenzene	74	18																					
Total Xylenes	280	49																					
1,2 -Dichlorobenzene	600	13																					
1,3 -Dichlorobenzene	6.6	28																					
Naphthalene	520	11																					
2-Methylnaphthalene	260	19				0.18																	
Diethyl ether	10 (E)	ID																					
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)																					
Acrylonitrile	2.6	2.0 (M); 1.2																					
Dichlorodifluoromethane	1,700	ID																					
Bromomethane	10	4.2; [5(M)]																					
1,2-Dichloroethane	5.0 (A)	360 (X)																					
1,2-Dichloropropane	5.0 (A)	230 (X)																					
cis-1,3-Dichloropropene	NC	NC																					
trans-1,3-Dichloropropene	NC	NC																					
1,1,2-Trichloroethane	5.0 (A)	330 (X)																					
trans-1,4-Dichloro-2-butene	NC	NC																					
Dibromochloromethane	80 (A,W)	ID																					
1,2-Dibromoethane	NC	NC																					
1,1,1,2-Tetrachloroethane	77	ID																					
Isopropylbenzene	800	28																					
Bromoform	80 (A,W)	ID																					
1,1,2,2-Tetrachloroethane	8.5	78 (X)																					
1,2,3-Trichloropropane	42	NA																					
n-Propylbenzene	80	ID																					
Bromobenzene	18	NA																					
1,3,5-Trimethylbenzene	72 (E)	45																					
tert-Butylbenzene	80	ID																					
1,2,4-Trimethylbenzene	63 (E)	17																					
1,2,4-Trichlorobenzene	NC	NC																					
1,2,3-Trichlorobenzene	NC	NC																					
n-Butylbenzene	NC	NC																					

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

		Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Field Dup (Dupe-1)	Field Dup (Dupe-2)	Trip Blank	Field Blank	Field Blank	Equip Blank
		Date Collected	DRY	DRY	02/27/19	02/28/19	02/27/19	02/27/19	NS	02/27/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/28/19	02/27/19	02/28/19	02/28/19
PFA ANALYTE (ng/L)	**DW**	GSI	**NS**	**NS**	**NS**	**01/17/19**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**01/17/19**	**NS**	**NS**	**NS**	**NS**	**NS**
Perfluorobutane sulfonic acid (PFBS)	NC	NC																					
Perfluoropentane sulfonic acid (PFPeS)	NC	NC																					
Perfluorohexane sulfonic acid (PFHxS)	NC	NC																					
Perfluoroheptane sulfonic acid (PFHpS)	NC	NC																					
Perfluorooctane sulfonic acid (PFOS)	CC	12				**90**												**90**					
Perfluorononane sulfonic acid (PFNS)	NC	NC																					
Perfluorodecane sulfonic acid (PFDS)	NC	NC																					
Perfluorobutanoic acid (PFBA)	NC	NC																					
Perfluoropentanoic acid (PFPeA)	NC	NC																					
Perfluorohexanoic acid (PFHxA)	NC	NC																					
Perfluoroheptanoic acid (PFHpA)	NC	NC																					
Perfluorooctanoic acid (PFOA)	CC	12,000																					
Perfluorononanoic acid (PFNA)	NC	NC																					
Perfluorodecanoic acid (PFDA)	NC	NC																					
Perfluoroundecanoic acid (PFUnDA)	NC	NC																					
Perfluorododecanoic acid (PFDoDA)	NC	NC																					
Perfluorotridecanoic acid (PFTrDA)	NC	NC																					
Perfluorotetradecanoic acid (PFTeDA)	NC	NC																					
Perfluorooctane sulfonamide (FOSA)	NC	NC																					
N-Methyl perfluorooctane sulfonamidoacetic acid	NC	NC																					
N-Ethyl perfluorooctane sulfonamidoacetic acid	NC	NC																					
Fluorotelomer sulfonic acid (4:2 FTS)	NC	NC																					
Fluorotelomer sulfonic acid (6:2 FTS)	NC	NC																					
Fluorotelomer sulfonic acid (8:2 FTS)	NC	NC																					

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 due to turbidity	NA
Combined PFOA and PFOS concentrations compared to 0.070 ppb (70 ppt) for the drinking water pathway.	CC

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

				Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Dupe 1	Dupe 2	Equipment Blank	Equipment Blank	Field Blank	Field Blank	Trip Blank	Trip Blank
				Date Collected	07/16/2019	07/16/2019	07/17/2019	07/17/2019	07/16/2019	07/16/2019	07/16/2019	07/16/2019	07/17/2019	07/17/2019	07/17/2019	07/17/2019	07/16/2019	07/17/2019	07/17/2019	07/16/2019	07/17/2019	07/16/2019	07/17/2019	07/16/2019	07/17/2019	07/16/2019	07/17/2019
METALS ANALYTE (ug/L)	**DW**	GSI																		MW-112S	MW-114S						
Arsenic, Dissolved	10	10		0.298	0.475	0.577	7	0.496	0.399	<0.002	0.485	0.483	10	0.295	0.535	**15**	1.38	**16**	**15**	**18**	<0.002	<0.002	0.11	<0.002	NA	NA
Arsenic	10	10		0.572	0.521	<0.002	**39**	0.358	1.03	0.275	<0.002	0.328	**73**	1.72	0.942	**68**	5	**101**	**63**	**95**	0.111	<0.002	0.201	<0.002	NA	NA
Chromium, Dissolved	100	160	G	0.345	3.944	5	0.246	0.302	0.802	0.328	0.286	0.326	0.265	0.406	5	0.512	1.132	0.171	0.343	0.329	0.215	0.078	0.283	1.827	NA	NA
Chromium	100	160	G	0.56	2.54	6	0.382	34	83	4.544	0.301	0.575	2.927	1.283	6	0.495	1.634	0.371	0.365	0.369	0.154	0.184	0.104	1.791	NA	NA
Chromium VI, Dissolved	100	160		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA	NA
Chromium VI	100	160		<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	NA	NA
Copper, Dissolved	1000	20	G	0.829	2.404	0.579	<0.005	1.698	2.039	0.898	1.576	0.545	<0.005	0.497	0.752	1.826	1.465	0.879	<0.005	0.707	0.321	0.157	0.194	<0.005	NA	NA
Copper	1000	20	G	0.816	3.124	0.742	0.775	3.404	4.683	1.603	1.663	0.975	0.774	0.543	0.938	0.458	1.144	1.317	1.106	1.541	0.177	0.23	0.178	<0.005	NA	NA
Lead, Dissolved	4	44	G	<0.003	1.434	<0.003	<0.003	<0.003	0.673	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.263	<0.003	<0.003	<0.003	<0.003	0.248	<0.003	0.18	<0.003	NA	NA
Lead	4	44	G	<0.003	0.361	<0.003	<0.003	<0.003	0.303	0.216	<0.003	0.37	<0.003	<0.003	0.214	0.274	0.195	0.385	<0.003	0.615	0.083	0.076	0.098	<0.003	NA	NA
Selenium, Dissolved	50	5		<0.005	<0.005	<0.005	<0.005	<0.005	2.39	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA
Selenium	50	5		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA
Zinc, Dissolved	2400	260	G	7	9	8	4.05	7	7	7	27	1.13	1.92	5	5	20	6	13	3.34	4.37	4.64	3.23	2.71	2.61	NA	NA
Zinc	2400	260	G	2.75	7	2.47	1.04	4.85	6	2.62	22	5	4.43	2.37	3.3	2	6	12	2.32	10	1.51	1.26	0.56	<0.005	NA	NA
VOC ANALYTE (ug/L)	**DW**	GSI																		MW-112S	MW-114S						
Diethyl ether	10 (E)	ID		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<50	<10	<50	<10	<10	<10	<10	<10	<10
Acetone	730	1,700		<50	<50	<50	4.1	<50	<50	<50	<50	<50	<50	<50	<50	4.8	<50	48	4.1	51	<50	5.9	<50	<50	4.1	<50
Methyl iodide	NC	NC		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Carbon disulfide	800	NC		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	0.15	0.2	0.19	0.16	<5	<5
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
Acrylonitrile	2.6	2.0 (M); 1.2		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<2	<10	<2	<2	<2	<2	<2	<2
2-Butanone (MEK)	13,000	2,200		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	17	<25	18	<25	<25	<25	<25	<25	<25
Dichlorodifluoromethane	1,700	ID		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
Chloromethane	260	NC		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
Vinyl chloride	2	13		<1	<1	<1	<1	<1	<1	<1	<1	<1	**7**	<1	<1	**7**	0.78	**8**	**6**	**8**	<1	<1	<1	<1	<1	<1
Bromomethane	10	4.2; [5(M)]		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
Chloroethane	430	1,100		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	2,600	NA		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	7	130		<1	<1	<1	<1	<1	<1	<1	<1	<1	0.82	<1	<1	1	<1	<5	1	<5	<1	<1	<1	<1	<1	<1
Methylene chloride	5	1,500		<5	<5	<5	<5	<5	<5	0.18	0.17	0.18	0.19	0.19	<5	<5	<5	2.5	0.19	2.5	<5	2.34	<5	<5	0.19	<5
trans-1,2-Dichloroethene	100	1,500		<1	<1	<1	<1	<1	<1	<1	<1	<1	0.42	<1	<1	0.29	<1	1.35	0.31	1.45	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	880	740		<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	0.85	<1	2.5	0.78	2.55	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	70	620		12	<1	<1	<1	<1	<1	<1	<1	<1	9	<1	0.82	3	1	**244**	3	**244**	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	95	11,000		<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	9.3	<90	9.8	<90	<90	<90	<90	2	1.2
Chloroform	80	350		<1	<1	<1	<1	0.29	<1	<1	<1	1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Bromochloromethane	NC	NC		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	89		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.7	<1	1.5	<1	<1	<1	<1	<1	<1
4-Methyl-2-pentanone (MIBK)	1800	ID		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<250	<50	<250	<50	<50	<50	<50	<50	<50
2-Hexanone	1000	ID		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	2.05	<50	1.65	<50	<50	<50	<50	<50	<50
Carbon tetrachloride	5.0	38	X	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Benzene	5.0	200		<1	<1	<1	0.26	<1	<1	<1	<1	<1	<1	<1	<1	0.19	<1	<5	0.21	<5	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	5.0 (A)	360 (X)		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Trichloroethene	5.0	200		**10**	1	<1	<1	<1	<1	<1	<1	<1	**11**	<1	**10**	**9**	**12**	**179**	**9**	**169**	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5.0 (A)	230 (X)		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Bromodichloromethane	80.0	NC		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Dibromomethane	230	NA		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	NC	NC		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Toluene	790	270		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	0.17	<5	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	NC	NC		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5.0 (A)	330 (X)		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5.0	60		<1	0.14	<1	<1	<1	**43**	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	NC	NC		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Dibromochloromethane	80 (A,W)	ID		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	NC	NC		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Chlorobenzene	100	25		<1	<1	<1	0.47	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	77	ID		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

	Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Dupe 1	Dupe 2	Equipment Blank	Equipment Blank	Field Blank	Field Blank	Trip Blank	Trip Blank
	Date Collected	07/16/2019	07/16/2019	07/17/2019	07/17/2019	07/16/2019	07/16/2019	07/16/2019	07/16/2019	07/17/2019	07/17/2019	07/17/2019	07/17/2019	07/16/2019	07/17/2019	07/17/2019	07/16/2019	07/17/2019	07/16/2019	07/17/2019	07/16/2019	07/17/2019	07/16/2019	07/17/2019
VOC ANALYTE (ug/L) {cont}	**DW** GSI																							
Ethylbenzene	74 18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Total Xylenes	280 49	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Styrene	100 80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Isopropylbenzene	800 28	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
Bromoform	80 (A,W) ID	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	8.5 78 (X)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	42 NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
n-Propylbenzene	80 ID	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Bromobenzene	18 NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	72 (E) 45	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	80 ID	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	63 (E) 17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	230 ID	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	NC NC	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	6.6 28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	75 17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	600 13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	NC NC	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
n-Butylbenzene	NC NC	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<5	<1	<1	<1	<1	<1	<1
Hexachloroethane	21 6.7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	NC NC	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	NC NC	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
1,2,3-Trichlorobenzene	NC NC	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
Naphthalene	520 11	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	<5	<5	<5	<5	<5
2-Methylnaphthalene	260 19	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<30	<5	<30	<5	**0.26**	<5	**0.22**	<5	<5

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Dupe 1	Dupe 2	Equipment Blank	Equipment Blank	Field Blank	Field Blank	Trip Blank	Trip Blank
Date Collected			07/16/2019	07/16/2019	07/17/2019	07/17/2019	07/16/2019	07/16/2019	07/16/2019	07/16/2019	07/17/2019	07/17/2019	07/17/2019	07/17/2019	07/16/2019	07/17/2019	07/17/2019	07/16/2019	07/17/2019	07/16/2019	07/17/2019	07/16/2019	07/17/2019	07/16/2019	07/17/2019
PFA ANALYTE (ng/L)	**DW**	GSI	**NS**	**NS**			**NS**	**NS**	**NS**	**NS**					**NS**			**NS**	**MW-114S**	**NS**			**7/17/2019**		**7/17/2019**
Perfluorobutanoic acid (PFBA)	NC	NC	NA	NA	<19	<19	NA	NA	NA	NA	<19	<19	20	<19	NA	<19	<19	NA	<19	NA	<19	NA	<20	NA	<19
Perfluoropentanoic acid (PFPeA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Fluorotelomer sulfonic acid (4:2 FTS)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorohexanoic acid (PFHxA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorobutane sulfonic acid (PFBS)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluoroheptanoic acid (PFHpA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluoropentane sulfonic acid (PFPeS)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Fluorotelomer sulfonic acid (6:2 FTS)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorooctanoic acid (PFOA)	CC	12,000	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorohexane sulfonic acid (PFHxS)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorononanoic acid (PFNA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Fluorotelomer sulfonic acid (8:2 FTS)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluoroheptane sulfonic acid (PFHpS)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorodecanoic acid (PFDA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorooctane sulfonic acid (PFOS)	CC	12	NA	NA	11	**93**	NA	NA	NA	NA	11	**28**	<9.6	**36**	NA	**20**	**31**	NA	**32**	NA	<9.4	NA	<10	NA	<9.3
Perfluorooctane Sulfonic Acid - LN (PFOS-LN)	NC	NC	NA	NA	<9.7	44	NA	NA	NA	NA	<9.7	12	<9.6	16	NA	<9.5	17	NA	16	NA	<9.4	NA	<10	NA	<9.3
Perfluorooctane Sulfonic Acid - BR (PFOS-BR)	NC	NC	NA	NA	<9.7	48	NA	NA	NA	NA	<9.7	16	<9.6	21	NA	16	15	NA	16	NA	<9.4	NA	<10	NA	<9.3
Perfluoroundecanoic acid (PFUnDA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorononane sulfonic acid (PFNS)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorododecanoic acid (PFDoDA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorodecane sulfonic acid (PFDS)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorotridecanoic acid (PFTrDA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorooctane sulfonamide (FOSA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3
Perfluorotetradecanoic acid (PFTeDA)	NC	NC	NA	NA	<9.7	<9.4	NA	NA	NA	NA	<9.7	<9.7	<9.6	<9.6	NA	<9.5	<9.5	NA	<9.5	NA	<9.4	NA	<10	NA	<9.3

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 due to turbidity	NA
Combined PFOA and PFOS concentrations compared to 0.070 ppb (70 ppt) for the drinking water pathway.	CC

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

				Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Dupe 1	Dupe 2	Field Blank	Equip Blank	Field Blank	Equipment Blank	Trip	Equip	Field
				Date Collected	02/25/2020	02/25/2020	02/25/2020	02/28/2020	02/25/2020	02/25/2020	02/25/2020	02/25/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/25/2020	02/25/2020	02/27/2020	02/27/2020	02/28/2020	02/28/2020	02/28/2020
METALS ANALYTE (ug/L)	**DW**	GSI																		**MW-112S**	**MW-114S**							
Arsenic, Dissolved	10	10			<0.002	<0.002	<0.002	4	<0.002	<0.002	<0.002	<0.002	0.257	9	0.518	<0.002	**13**	1.511	**25**	**13**	**24**	NA	NA	NA	NA	NA	NA	NA
Arsenic	10	10			<0.002	<0.002	<0.002	**46**	<0.002	0.316	1.173	0.465	<0.002	**69**	2	0.998	**41**	3	**62**	**43**	**69**	NA	NA	NA	NA	NA	NA	NA
Chromium, Dissolved	100	160	G		0.275	0.891	7	0.204	0.562	0.463	0.719	<0.005	0.295	0.138	0.312	6	0.214	0.518	13	0.39	<0.005	NA	NA	NA	NA	NA	NA	NA
Chromium	100	160	G		0.42	2.753	6	0.388	16	**280**	**764**	0.185	0.431	1.767	0.862	6	0.349	6	0.97	0.356	1.084	NA	NA	NA	NA	NA	NA	NA
Chromium VI, Dissolved	100	160			<0.005	<0.005	8	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	4	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA
Chromium VI	100	160			<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	4	<0.025	<0.5	<0.5	<0.5	<0.5	<0.025	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
Copper, Dissolved	1000	20	G		0.405	<0.005	<0.005	<0.005	3.473	0.396	0.576	0.86	1.357	<0.005	<0.005	0.501	<0.005	0.492	0.751	0.391	0.611	NA	NA	NA	NA	NA	NA	NA
Copper	1000	20	G		<0.005	0.698	0.516	0.528	9	6	14	0.996	0.564	<0.005	0.835	0.694	<0.005	0.973	6	<0.005	6	NA	NA	NA	NA	NA	NA	NA
Lead, Dissolved	4	44	G		<0.003	<0.003	<0.003	0.208	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.584	<0.003	NA	NA	NA	NA	NA	NA	NA
Lead	4	44	G		0.249	0.283	<0.003	<0.003	<0.003	<0.003	0.886	0.283	<0.003	<0.003	0.242	0.339	<0.003	0.4	4	<0.003	4	NA	NA	NA	NA	NA	NA	NA
Selenium, Dissolved	50	5			<0.005	<0.005	<0.005	<0.005	<0.005	9	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA
Selenium	50	5			<0.005	<0.005	<0.005	<0.005	<0.005	9	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA
Zinc, Dissolved	2400	260	G		6	4.654	5	2.299	9	1.504	1.216	9	7	3.151	3.037	6	2.665	8	27	6	29	NA	NA	NA	NA	NA	NA	NA
Zinc	2400	260	G		1.56	2.074	1.632	2.05	14	1.948	7	6	2.742	2.004	1.879	1.594	1.588	6	44	1.221	43	NA	NA	NA	NA	NA	NA	NA
VOC ANALYTE (ug/L)	**DW**	GSI																		**MW-112S**	**MW-114S**							
Diethyl ether	10 (E)	ID			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	730	1,700			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Methyl iodide	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	800	NC			<5	<5	<5	0.26	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.15	0.18	0.17	0.17
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acrylonitrile	2.6	2.0 (M); 1.2			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
2-Butanone (MEK)	13,000	2,200			<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Dichlorodifluoromethane	1,700	ID			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloromethane	260	NC			0.15	<5	<5	<5	<5	<5	<5	<5	<5	0.13	<5	<5	<5	0.44	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	2	13			<1	<1	<1	0.81	<1	<1	<1	<1	<1	**18**	<1	<1	**10**	0.79	**5**	**11**	**3**	<1	<1	<1	<1	<1	<1	<1
Bromomethane	10	4.2; [5(M)]			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroethane	430	1,100			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.39	<5	<5
Trichlorofluoromethane	2,600	NA			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	7	130			<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	1	<1	0.84	1	0.82	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	5	1,500			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.11	<5	<5	0.13	<5	0.43	0.41	0.36	0.76	0.22	0.36	0.45
trans-1,2-Dichloroethene	100	1,500			<1	<1	<1	<1	<1	<1	<1	<1	<1	0.5	<1	<1	0.28	<1	0.78	0.24	0.83	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	880	740			<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	0.99	<1	3	1	2	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	70	620			9	<1	<1	<1	<1	<1	<1	0.11	<1	17	<1	0.35	3	0.44	**127**	3	**125**	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	95	11,000			<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	0.22	<90	<90	<90	<90	<90
Chloroform	80	350			<1	<1	<1	<1	0.71	<1	0.24	<1	0.81	<1	<1	<1	<1	<1	0.22	<1	0.23	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	89			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	2	<1	<1	<1	<1	<1	<1	<1
4-Methyl-2-pentanone (MIBK)	1800	ID			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
2-Hexanone	1000	ID			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Carbon tetrachloride	5.0	38	X		<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	5.0	200			<1	<1	<1	0.26	<1	<1	<1	<1	<1	<1	<1	<1	0.2	<1	<1	0.22	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	5.0 (A)	360 (X)			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5.0	200			**16**	2	0.16	<1	<1	<1	<1	0.15	0.14	**13**	<1	**6**	**6**	**7**	**335**	**6**	**350**	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5.0 (A)	230 (X)			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	80.0	NC			<1	<1	<1	<1	0.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	230	NA			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	790	270			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5.0 (A)	330 (X)			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5.0	60			<1	<1	<1	<1	<1	**78**	<1	<1	<1	<1	<1	<1	<1	<1	0.2	<1	0.18	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	80 (A,W)	ID			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	100	25			<1	<1	<1	0.53	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	77	ID			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

			Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Dupe 1	Dupe 2	Field Blank	Equip Blank	Field Blank	Equipment Blank	Trip	Equip	Field
			Date Collected	02/25/2020	02/25/2020	02/25/2020	02/28/2020	02/25/2020	02/25/2020	02/25/2020	02/25/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/25/2020	02/25/2020	02/27/2020	02/27/2020	02/28/2020	02/28/2020	02/28/2020
VOC ANALYTE (ug/L) {cont}	**DW**	GSI																	**MW-112S**	**MW-114S**							
Ethylbenzene	74	18		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Xylenes	280	49		<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
p,m-Xylene				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	100	80		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	800	28		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	80 (A,W)	ID		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	8.5	78 (X)		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	42	NA		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	80	ID		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	18	NA		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	72 (E)	45		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	80	ID		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	63 (E)	17		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	230	ID		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	NC	NC		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	6.6	28		0.32	0.25	0.11	<1	0.37	0.26	0.23	0.26	0.13	0.1	0.14	0.21	0.19	0.17	<1	0.2	<1	<1	0.12	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	75	17		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.13	<1	<1
1,2-Dichlorobenzene	600	13		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.15	<1	<1	0.11	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	NC	NC		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	NC	NC		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	21	6.7		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	NC	NC		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	NC	NC		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.18	0.13	0.12
1,2,3-Trichlorobenzene	NC	NC		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.12	0.11	<5	<5	0.16	<5	<5
Naphthalene	520	11		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.17	0.15	0.13	<5	<5	<5	<5
2-Methylnaphthalene	260	19		<5	<5	0.1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.18	0.15	0.12	<5	0.13	<5	<5

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Dupe 1	Dupe 2	Field Blank	Equip Blank	Field Blank	Equipment Blank	Trip	Equip	Field
Date Collected			02/25/2020	02/25/2020	02/25/2020	02/28/2020	02/25/2020	02/25/2020	02/25/2020	02/25/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/27/2020	02/25/2020	02/25/2020	02/27/2020	02/27/2020	02/28/2020	02/28/2020	02/28/2020
PFA ANALYTE (ng/L)	**DW**	GSI																								
Perfluorobutanoic acid (PFBA)	NC	NC	<20	<21	NA	<19	NA	NA	8.1	<19	NA	5.5	<19	<20	<19	<19	<20	<20	<19	<19	<19	<21	<19	<20	<19	<19
Perfluoropentanoic acid (PFPeA)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Fluorotelomer sulfonic acid (4:2 FTS)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorohexanoic acid (PFHxA)	400,000	NC	<9.8	1.7	NA	<9.5	NA	NA	3.5	<9.6	NA	1.4	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorobutane sulfonic acid (PFBS)	420	NC	2.7	2.3	NA	<9.5	NA	NA	4.5	1.9	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluoroheptanoic acid (PFHpA)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	2.8	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluoropentane sulfonic acid (PFPeS)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Fluorotelomer sulfonic acid (6:2 FTS)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorooctanoic acid (PFOA)	8	12,000	<9.8	<10	NA	<9.5	NA	NA	**8.7**	<9.6	NA	2.3	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorohexane sulfonic acid (PFHxS)	51	NC	<9.8	<10	NA	2.7	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	NC	NC	<9.8	<10	NA	3	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorononanoic acid (PFNA)	6	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Fluorotelomer sulfonic acid (8:2 FTS)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluoroheptane sulfonic acid (PFHpS)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorodecanoic acid (PFDA)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorooctane sulfonic acid (PFOS)	16	12	**20**	**21**	NA	**84**	NA	NA	7.3	14	NA	**31**	<9.5	**32**	**22**	6.2	**31**	**19**	**35**	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorooctane Sulfonic Acid - LN (PFOS-LN)	NC	NC	7.4	7.8	NA	47	NA	NA	<10	6.8	NA	11	<9.5	14	9.1	<9.5	15	8.4	17	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorooctane Sulfonic Acid - BR (PFOS-BR)	NC	NC	12	12	NA	35	NA	NA	6.4	6	NA	19	<9.5	16	11	4.2	14	9.1	17	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluoroundecanoic acid (PFUnDA)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorononane sulfonic acid (PFNS)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorododecanoic acid (PFDoDA)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorodecane sulfonic acid (PFDS)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorotridecanoic acid (PFTrDA)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorooctane sulfonamide (FOSA)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5
Perfluorotetradecanoic acid (PFTeDA)	NC	NC	<9.8	<10	NA	<9.5	NA	NA	<10	<9.6	NA	<9.9	<9.5	<10	<9.4	<9.5	<10	<10	<9.7	<9.6	<9.6	<10	<9.7	<10	<9.7	<9.5

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 due to turbidity	NA

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

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

				Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Dupe #1	Dupe #2	Field Blank	Trip Blank	Equip Blank	Field Blank
				Date Collected	08/18/2020	08/18/2020	08/18/2020	08/19/2020	08/18/2020	08/18/2020	08/18/2020	08/18/2020	08/19/2020	08/19/2020	08/19/2020	08/19/2020	08/18/2020	08/19/2020	08/19/2020	08/18/2020	08/19/2020	08/18/2020	08/18/2020	08/19/2020	08/19/2020
METALS ANALYTE (ug/L)	**DW**	GSI																		**MW-112S**	**MW-114S**				
Arsenic, Dissolved	10	10			0.57	<2	0.362	**13**	<2	<2	0.934	<2	<0.002	**16**	0.616	0.589	**18**	1.145	**20**	**19**	**21**	<2	NA	<2	<2
Arsenic	10	10			<2	1.019	0.414	**64**	0.339	0.558	0.314	0.258	<0.002	**113**	1.261	0.676	**68**	4	**119**	**70**	**114**	<2	NA	<2	<2
Chromium, Dissolved	100	160	G		0.548	1.225	2.804	0.174	0.474	1.072	1.389	0.14	0.299	0.17	0.393	5	0.389	0.283	0.235	0.281	0.138	0.193	NA	0.095	0.137
Chromium	100	160	G		0.938	2.151	**1170**	0.221	61	24	22	<0.005	0.207	0.282	0.458	7	0.851	1.506	0.457	0.279	0.428	0.164	NA	0.112	0.12
Chromium VI, Dissolved	100	11			<10	<10	<10	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10
Chromium VI	100	11			<10	<10	<10	<250	<10	<10	<10	<10	<10	<0.25	<50	<10	<250	<50	<50	<250	<50	<10	NA	<10	<10
Copper, Dissolved	1000	20	G		0.489	<5	1.301	<5	0.707	0.563	0.814	0.478	0.418	<5	<5	<5	<5	<5	1.604	<5	53	0.351	NA	<5	<5
Copper	1000	20	G		0.709	0.596	55	<5	2.148	0.971	1.003	0.417	0.448	<5	<5	0.392	<5	<5	1.803	<5	1.587	0.205	NA	<5	<5
Lead, Dissolved	4	44	G		0.274	<3	<3	<3	<3	<3	<3	<3	<3	<3	0.904	<3	<3	<3	0.369	<3	<3	<3	NA	<3	<3
Lead	4	44	G		0.234	0.409	<3	<3	<3	<3	<3	<3	<3	0.245	<0.003	<3	<3	<3	1.289	<3	1.194	<3	NA	<3	<3
Selenium, Dissolved	50	5			<5	<5	<5	<5	<5	9	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5
Selenium	50	5			<5	<5	<5	<5	<5	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5
Zinc, Dissolved	2400	260	G		3.794	7	6	2.013	9	3.668	3.46	3.679	6	2.365	3.312	3.689	2.558	2.057	8	2.599	7	3.386	NA	2.785	2.769
Zinc	2400	260	G		2.732	2.35	1.075	1.046	1.538	6	1.828	1.729	4.07	1.703	1.381	1.424	1.471	1.634	15	1.117	16	1.264	NA	0.483	0.69
VOC ANALYTE (ug/L)	**DW**	GSI																							
Diethyl ether	10 (E)	ID			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100	<10	<100	<10	<10	<10	<10
Acetone	730	1,700			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500	<50	<500	<50	<50	<50	<50
Methyl iodide	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Carbon disulfide	800	NC			<5	<5	<5	<5	0.11	<5	<5	<5	0.12	0.1	<5	0.1	<5	0.12	<50	<5	<50	0.15	0.19	0.19	0.1
tert-Methyl butyl ether (MTBE)	40 (E)	7,100 (X)			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
Acrylonitrile	2.6	2.0 (M); 1.2			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<20	<2	<2	<2	<2
2-Butanone (MEK)	13,000	2,200			<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<250	<25	<250	<25	<25	<25	<25
Dichlorodifluoromethane	1,700	ID			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
Chloromethane	260	NC			0.25	<5	0.15	0.91	0.17	<5	<5	0.11	0.23	0.22	0.17	0.2	<5	0.31	<50	<5	<50	<5	<5	<5	<5
Vinyl chloride	2	13			<1	<1	<1	0.99	<1	<1	<1	0.94	<1	**11**	<1	<1	**6**	2	**10**	**5**	**10**	<1	<1	<1	<1
Bromomethane	10	4.2; [5(M)]			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
Chloroethane	430	1,100			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
Trichlorofluoromethane	2,600	NA			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,1-Dichloroethene	7	130			<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	1	0.21	<10	1	<10	<1	<1	<1	<1
Methylene chloride	5	1,500			<5	0.12	<5	<5	0.11	<5	<5	0.1	<5	0.12	<5	0.13	0.13	0.12	**10.2**	0.13	**9.9**	0.12	1.23	0.15	<5
trans-1,2-Dichloroethene	100	1,500			<1	<1	<1	<1	<1	<1	<1	<1	<1	0.57	<1	<1	0.19	<1	1.2	0.17	1	<1	<1	<1	<1
1,1-Dichloroethane	880	740			<1	<1	<1	<1	<1	<1	<1	0.29	<1	0.96	<1	<1	0.7	<1	3	0.66	3.1	<1	<1	<1	<1
cis-1,2-Dichloroethene	70	620			3	<1	<1	0.44	<1	<1	<1	1	<1	14	<1	1	2	1	**130**	2	**120**	<1	<1	<1	<1
Tetrahydrofuran	95	11,000			<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	7.6	<90	7.2	<90	0.46	<90	<90
Chloroform	80	350			<1	<1	<1	<1	1	<1	0.23	<1	1	<1	<1	0.11	<1	0.12	<10	<1	<10	<1	<1	<1	<1
Bromochloromethane	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,1,1-Trichloroethane	200	89			<1	<1	<1	<1	<1	<1	<1	<1	<1	0.15	<1	<1	<1	<1	1.9	<1	1.9	<1	<1	<1	<1
4-Methyl-2-pentanone (MIBK)	1800	ID			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500	<50	<500	<50	<50	<50	<50
2-Hexanone	1000	ID			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500	<50	<500	<50	<50	<50	<50
Carbon tetrachloride	5.0	38	X		<1	<1	<1	<1	<1	<1	<1	<1	3	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Benzene	5.0	200			<1	<1	<1	0.91	<1	<1	<1	0.14	<1	<1	<1	<1	0.17	<1	<10	0.16	<10	<1	<1	<1	<1
1,2-Dichloroethane	5.0 (A)	360 (X)			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Trichloroethene	5.0	200			**10**	5	0.12	<1	<1	<1	<1	2	0.26	**21**	<1	**8**	4	**30**	**310**	4	**290**	<1	<1	<1	<1
1,2-Dichloropropane	5.0 (A)	230 (X)			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Bromodichloromethane	80.0	NC			<1	<1	<1	<1	0.23	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Dibromomethane	230	NA			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
cis-1,3-Dichloropropene	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Toluene	790	270			<1	<1	<1	0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	0.1	<10	<1	<1	<1	<1
trans-1,3-Dichloropropene	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,1,2-Trichloroethane	5.0 (A)	330 (X)			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Tetrachloroethene	5.0	60			<1	<1	<1	<1	<1	**55**	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Dibromochloromethane	80 (A,W)	ID			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
1,2-Dibromoethane	NC	NC			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Chlorobenzene	100	25			<1	<1	<1	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	77	ID			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

		Sample ID	MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Dupe #1	Dupe #2	Field Blank	Trip Blank	Equip Blank	Field Blank
		Date Collected	08/18/2020	08/18/2020	08/18/2020	08/19/2020	08/18/2020	08/18/2020	08/18/2020	08/18/2020	08/19/2020	08/19/2020	08/19/2020	08/19/2020	08/18/2020	08/19/2020	08/19/2020	08/18/2020	08/19/2020	08/18/2020	08/18/2020	08/19/2020	08/19/2020
VOC ANALYTE (ug/L) {cont}	**DW**	GSI																**MW-112S**	**MW-114S**				
Ethylbenzene	74	18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Total Xylenes	280	49	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
p,m-Xylene			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<20	<2	<2	<2	<2
o-Xylene			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Styrene	100	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Isopropylbenzene	800	28	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
Bromoform	80 (A,W)	ID	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	8.5	78 (X)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,2,3-Trichloropropane	42	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
n-Propylbenzene	80	ID	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Bromobenzene	18	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,3,5-Trimethylbenzene	72 (E)	45	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
tert-Butylbenzene	80	ID	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,2,4-Trimethylbenzene	63 (E)	17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
sec-Butylbenzene	230	ID	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
p-Isopropyltoluene	NC	NC	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
1,3-Dichlorobenzene	6.6	28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,4-Dichlorobenzene	75	17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,2-Dichlorobenzene	600	13	<1	<1	<1	0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
1,2,3-Trimethylbenzene	NC	NC	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
n-Butylbenzene	NC	NC	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<1	<1	<1
Hexachloroethane	21	6.7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	NC	NC	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
1,2,4-Trichlorobenzene	NC	NC	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
1,2,3-Trichlorobenzene	NC	NC	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	0.1	<5	<5
Naphthalene	520	11	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5
2-Methylnaphthalene	260	19	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	0.15	0.15	<5

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

	Sample ID		MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Dupe #1	Dupe #2	Field Blank	Trip Blank	Equip Blank	Field Blank
	Date Collected		08/18/2020	08/18/2020	08/18/2020	08/19/2020	08/18/2020	08/18/2020	08/18/2020	08/18/2020	08/19/2020	08/19/2020	08/19/2020	08/19/2020	08/18/2020	08/19/2020	08/19/2020	08/18/2020	08/19/2020	08/18/2020	08/18/2020	08/19/2020	08/19/2020
PFA ANALYTE (ng/L)	**DW**	GSI																**MW-112S**	**MW-114S**				
Perfluorobutanoic acid (PFBA)	NC	NC	<9.8	<9.7	NA	<10	NA	NA	<10	<10	NA	<10	<10.0	<10	<9.9	<9.7	<9.7	<10	<10	<9.8	<9.9	<9.9	<10
Perfluoropentanoic acid (PFPeA)	NC	NC	<3.9	1.9	NA	<4.0	NA	NA	3.1	<4.1	NA	3.6	1.1	2.4	<4.0	1	1.1	<4.1	1.1	<3.9	<3.9	<3.9	<4.1
Fluorotelomer sulfonic acid (4:2 FTS)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluorohexanoic acid (PFHxA)	400,000	NC	<2.0	<1.9	NA	<2.0	NA	NA	3.7	<2.1	NA	3.2	<2.0	1.6	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluorobutane sulfonic acid (PFBS)	420	NC	1.6	1.9	NA	<2.0	NA	NA	3.2	<2.1	NA	2.7	1.9	1.5	<2.0	1.8	1.8	1.8	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluoroheptanoic acid (PFHpA)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	3	<2.1	NA	1.5	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluoropentane sulfonic acid (PFPeS)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Fluorotelomer sulfonic acid (6:2 FTS)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluorooctanoic acid (PFOA)	8	12,000	<2.0	3.2	NA	<2.0	NA	NA	**11**	<2.1	NA	3.1	2.8	3	<2.0	<1.9	1.8	<2.1	2.1	<2.0	<2.0	<2.0	<2.0
Perfluorohexane sulfonic acid (PFHxS)	51	NC	<2.0	1.9	NA	2.2	NA	NA	3.1	<2.1	NA	2.5	2	1.9	<2.0	3.1	2.3	<2.1	3.1	<2.0	<2.0	<2.0	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	NC	NC	<2.0	1.6	NA	2.2	NA	NA	2.3	<2.1	NA	1.8	<2.0	<2.1	<2.0	2.6	1.6	<2.1	2.4	<2.0	<2.0	<2.0	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluorononanoic acid (PFNA)	6	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Fluorotelomer sulfonic acid (8:2 FTS)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluoroheptane sulfonic acid (PFHpS)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluorodecanoic acid (PFDA)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	NC	NC	<3.9	<3.9	NA	<4.0	NA	NA	<4.0	<4.1	NA	<4.0	<4.0	<4.1	<4.0	<3.9	<3.9	<4.1	<4.1	<3.9	<3.9	<3.9	<4.1
Perfluorooctane sulfonic acid (PFOS)	16	12	**18**	**30**	NA	**120**	NA	NA	7.3	24	NA	**29**	5.9	**33**	**11**	26	**29**	**13**	**36**	<2.0	<2.0	<2.0	<2.0
Perfluorooctane Sulfonic Acid - LN (PFOS-LN)	NC	NC	8.5	12	NA	81	NA	NA	<2.0	15	NA	15	<2.0	17	5.2	5.7	18	5.9	21	<2.0	<2.0	<2.0	<2.0
Perfluorooctane Sulfonic Acid - BR (PFOS-BR)	NC	NC	8.9	18	NA	40	NA	NA	5.8	7.1	NA	13	4.5	15	4.9	19	12	5.8	14	<2.0	<2.0	<2.0	<2.0
Perfluoroundecanoic acid (PFUnDA)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluorononane sulfonic acid (PFNS)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluorododecanoic acid (PFDoDA)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluorodecane sulfonic acid (PFDS)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluorotridecanoic acid (PFTrDA)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluorooctane sulfonamide (FOSA)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluorotetradecanoic acid (PFTeDA)	NC	NC	<3.9	<3.9	NA	<4.0	NA	NA	<4.0	<4.1	NA	<4.0	<4.0	<4.1	<4.0	<3.9	<3.9	<4.1	<4.1	<3.9	<3.9	<3.9	<4.1

Table 1
Groundwater Analytical Results
RACER - Flint West # 12990

Sample ID			MW-100S	MW-101S	MW-102S	MW-103S	MW-104S	MW-105S	MW-106SR	MW-107S	MW-108S	MW-109S	MW-110S	MW-111S	MW-112S	MW-113S	MW-114S	Dupe #1	Dupe #2	Field Blank	Trip Blank	Equip Blank	Field Blank
Date Collected			08/18/2020	08/18/2020	08/18/2020	08/19/2020	08/18/2020	08/18/2020	08/18/2020	08/18/2020	08/19/2020	08/19/2020	08/19/2020	08/19/2020	08/18/2020	08/19/2020	08/19/2020	08/18/2020	08/19/2020	08/18/2020	08/18/2020	08/19/2020	08/19/2020
PFA ANALYTE (ng/L) {cont}	**DW**	GSI																**MW-112S**	**MW-114S**				
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	NC	NC	<2.0	<1.9	NA	<2.0	NA	NA	<2.0	<2.1	NA	<2.0	<2.0	<2.1	<2.0	<1.9	<1.9	<2.1	<2.0	<2.0	<2.0	<2.0	<2.0

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 due to turbidity	NA

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

Analytical Laboratory Report

Report ID: S16680.01(01)
Generated on 08/26/2020

Report to

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

Phone: 810-715-2525 FAX: 810-715-2526
Email: rabke@appliedecosystems.com

Report produced by

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

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

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

Report Summary

Lab Sample ID(s): S16680.01-S16680.11
Project: RACER Flint West #12990
Collected Date(s): 08/18/2020
Submitted Date/Time: 08/18/2020 16:10
Sampled by: Unknown
P.O. #: 795930

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

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

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001

Qualifier Descriptions

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

Glossary of Abbreviations

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

Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
SM3500-Cr B	Standard Method 3500 Cr B 2011
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003

Analytical Laboratory Report

Sample Summary (11 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S16680.01	MW-104S	Groundwater	08/18/20 10:48
S16680.02	Field Blank	Groundwater	08/18/20 09:19
S16680.03	MW-105S	Groundwater	08/18/20 11:20
S16680.04	MW-102S	Groundwater	08/18/20 11:44
S16680.05	MW-106SR	Groundwater	08/18/20 12:08
S16680.06	MW-101S	Groundwater	08/18/20 12:41
S16680.07	MW-100S	Groundwater	08/18/20 13:09
S16680.08	MW-107S	Groundwater	08/18/20 13:48
S16680.09	MW-112S	Groundwater	08/18/20 14:21
S16680.10	Dupe #1	Groundwater	08/18/20 00:01
S16680.11	Trip Blank	Groundwater	08/18/20 00:01

Analytical Laboratory Report

Lab Sample ID: S16680.01
Sample Tag: MW-104S
Collected Date/Time: 08/18/2020 10:48
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	3.7	IR
1	125ml Plastic	HNO3	Yes	3.7	IR
2	40ml Glass	HCL	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/24/20 10:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/18/20 18:25, Analyst: JKB

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

Method: SM3500-Cr B, Run Date: 08/18/20 17:20, 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: 08/25/20 13:18, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.000339	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium	0.061	0.005	0.0000965	mg/L	5	7440-47-3	
Copper	0.002148	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.001538	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 13:21, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000474	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.000707	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	0.009	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 14:28, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16680.01 (continued)
Sample Tag: MW-104S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 14:28, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	0.11	5	0.10	ug/L	1	75-15-0	JB
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	0.17	5	0.10	ug/L	1	74-87-3	J
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	0.11	5	0.10	ug/L	1	75-09-2	JB
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	1	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	0.23	1	0.10	ug/L	1	75-27-4	J
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16680.01 (continued)
Sample Tag: MW-104S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 14:28, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16680.02
Sample Tag: Field Blank
Collected Date/Time: 08/18/2020 09:19
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	3.7	IR
1	125ml Plastic	HNO3	Yes	3.7	IR
2	40ml Glass	HCL	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/24/20 10:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/18/20 18:30, Analyst: JKB

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

Method: SM3500-Cr B, Run Date: 08/18/20 17:35, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 08/25/20 13:10, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002	0.000102	mg/L	2	7440-38-2	f
Chromium, Dissolved	0.000193	0.005	0.0000386	mg/L	2	7440-47-3	bf
Copper, Dissolved	0.000351	0.005	0.000150	mg/L	2	7440-50-8	bf
Lead, Dissolved	Not detected	0.003	0.0000760	mg/L	2	7439-92-1	f
Selenium, Dissolved	Not detected	0.005	0.000838	mg/L	2	7782-49-2	f
Zinc, Dissolved	0.003386	0.005	0.000292	mg/L	2	7440-66-6	bf

Method: E200.8, Run Date: 08/25/20 13:14, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	Not detected	0.002	0.000102	mg/L	2	7440-38-2	
Chromium	0.000164	0.005	0.0000386	mg/L	2	7440-47-3	b
Copper	0.000205	0.005	0.000150	mg/L	2	7440-50-8	b
Lead	Not detected	0.003	0.0000760	mg/L	2	7439-92-1	
Selenium	Not detected	0.005	0.000838	mg/L	2	7782-49-2	
Zinc	0.001264	0.005	0.000292	mg/L	2	7440-66-6	b

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 13:30, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
f-Filtered and preserved in lab
b-Value detected less than reporting limit, but greater than MDL

Lab Sample ID: S16680.02 (continued)
Sample Tag: Field Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 13:30, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	0.15	5	0.10	ug/L	1	75-15-0	JB
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	0.12	5	0.10	ug/L	1	75-09-2	JB
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16680.02 (continued)
Sample Tag: Field Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 13:30, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16680.03
Sample Tag: MW-105S
Collected Date/Time: 08/18/2020 11:20
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	3.7	IR
1	125ml Plastic	HNO3	Yes	3.7	IR
2	40ml Glass	HCL	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/24/20 10:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/18/20 18:35, 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	c

Method: SM3500-Cr B, Run Date: 08/18/20 17:40, 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: 08/25/20 13:24, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.000558	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium	0.024	0.005	0.0000965	mg/L	5	7440-47-3	
Copper	0.000971	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	0.010	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.006	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 08/25/20 13:30, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.001072	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.000563	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	0.009	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	0.003668	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 14:47, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16680.03 (continued)
Sample Tag: MW-105S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 14:47, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	55	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	

Lab Sample ID: S16680.03 (continued)
Sample Tag: MW-105S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 14:47, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16680.04
Sample Tag: MW-102S
Collected Date/Time: 08/18/2020 11:44
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	3.7	IR
1	125ml Plastic	HNO3	Yes	3.7	IR
2	40ml Glass	HCL	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/24/20 10:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/18/20 18:40, 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	c

Method: SM3500-Cr B, Run Date: 08/18/20 17:45, 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: 08/25/20 13:32, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.000414	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium	1.17	0.005	0.0000965	mg/L	5	7440-47-3	
Copper	0.055	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	0.001075	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 13:36, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.000362	0.002	0.000255	mg/L	5	7440-38-2	bf
Chromium, Dissolved	0.002804	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.001301	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	0.006	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 15:06, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16680.04 (continued)
Sample Tag: MW-102S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 15:06, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	0.15	5	0.10	ug/L	1	74-87-3	J
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	0.12	1	0.10	ug/L	1	79-01-6	J
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

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

Lab Sample ID: S16680.04 (continued)
Sample Tag: MW-102S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 15:06, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16680.05
Sample Tag: MW-106SR
Collected Date/Time: 08/18/2020 12:08
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	3.7	IR
1	125ml Plastic	HNO3	Yes	3.7	IR
2	40ml Glass	HCL	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/24/20 10:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/18/20 18:45, 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	c

Method: SM3500-Cr B, Run Date: 08/18/20 17:50, 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: 08/25/20 13:39, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.000314	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium	0.022	0.005	0.0000965	mg/L	5	7440-47-3	
Copper	0.001003	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.001828	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 13:42, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.000934	0.002	0.000255	mg/L	5	7440-38-2	bf
Chromium, Dissolved	0.001389	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.000814	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	0.003460	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 15:25, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16680.05 (continued)
Sample Tag: MW-106SR

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 15:25, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	0.23	1	0.10	ug/L	1	67-66-3	J
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

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

Lab Sample ID: S16680.05 (continued)
Sample Tag: MW-106SR

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 15:25, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Analytical Laboratory Report

Lab Sample ID: S16680.06
Sample Tag: MW-101S
Collected Date/Time: 08/18/2020 12:41
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	3.7	IR
1	125ml Plastic	HNO3	Yes	3.7	IR
2	40ml Glass	HCL	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/24/20 10:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/18/20 18:50, 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	c

Method: SM3500-Cr B, Run Date: 08/18/20 17:55, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 08/25/20 13:55, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.001019	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium	0.002151	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.000596	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	0.000409	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	0.002350	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 13:57, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.001225	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	0.007	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 15:45, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16680.06 (continued)
Sample Tag: MW-101S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 15:45, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	0.12	5	0.10	ug/L	1	75-09-2	JB
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	5	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16680.06 (continued)
Sample Tag: MW-101S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 15:45, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16680.07
Sample Tag: MW-100S
Collected Date/Time: 08/18/2020 13:09
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	3.7	IR
1	125ml Plastic	HNO3	Yes	3.7	IR
2	40ml Glass	HCL	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/24/20 10:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/18/20 18:55, 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	c

Method: SM3500-Cr B, Run Date: 08/18/20 18:00, 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: 08/25/20 14:00, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	Not detected	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000938	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.000709	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	0.000234	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	0.002732	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 14:02, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.000570	0.002	0.000255	mg/L	5	7440-38-2	bf
Chromium, Dissolved	0.000548	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.000489	0.005	0.000377	mg/L	5	7440-50-8	bf
Lead, Dissolved	0.000274	0.003	0.000190	mg/L	5	7439-92-1	bf
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	0.003794	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 16:05, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16680.07 (continued)
Sample Tag: MW-100S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 16:05, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	0.25	5	0.10	ug/L	1	74-87-3	J
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	3	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	10	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

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

Lab Sample ID: S16680.07 (continued)
Sample Tag: MW-100S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 16:05, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16680.08
Sample Tag: MW-107S
Collected Date/Time: 08/18/2020 13:48
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	3.7	IR
1	125ml Plastic	HNO3	Yes	3.7	IR
2	40ml Glass	HCL	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/24/20 10:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/18/20 19:00, 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	c

Method: SM3500-Cr B, Run Date: 08/18/20 18:05, 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: 08/25/20 14:06, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.000258	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium	Not detected	0.005	0.0000965	mg/L	5	7440-47-3	
Copper	0.000417	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.001729	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 14:08, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000140	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.000478	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	0.003679	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 16:24, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16680.08 (continued)
Sample Tag: MW-107S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 16:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	0.11	5	0.10	ug/L	1	74-87-3	J
Vinyl chloride	0.94	1	0.10	ug/L	1	75-01-4	J
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	0.10	5	0.10	ug/L	1	75-09-2	JB
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	0.29	1	0.10	ug/L	1	75-34-3	J
cis-1,2-Dichloroethene	1	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	0.14	1	0.10	ug/L	1	71-43-2	J
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	2	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	

J-Estimated value less than reporting limit, but greater than MDL
B-Compound also found in associated method blank

Lab Sample ID: S16680.08 (continued)
Sample Tag: MW-107S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 16:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16680.09
Sample Tag: MW-112S
Collected Date/Time: 08/18/2020 14:21
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	3.7	IR
1	125ml Plastic	HNO3	Yes	3.7	IR
2	40ml Glass	HCL	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/24/20 10:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/18/20 19:05, 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	c

Method: SM3500-Cr B, Run Date: 08/18/20 18:10, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 08/25/20 14:11, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.068	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000851	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	0.001471	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 14:14, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.018	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000389	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	0.002558	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 16:43, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16680.09 (continued)
Sample Tag: MW-112S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 16:43, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
Vinyl chloride	6	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	1	1	0.10	ug/L	1	75-35-4	
Methylene chloride	0.13	5	0.10	ug/L	1	75-09-2	JB
trans-1,2-Dichloroethene	0.19	1	0.10	ug/L	1	156-60-5	J
1,1-Dichloroethane	0.70	1	0.10	ug/L	1	75-34-3	J
cis-1,2-Dichloroethene	2	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	0.17	1	0.10	ug/L	1	71-43-2	J
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	4	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16680.09 (continued)
Sample Tag: MW-112S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 16:43, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Analytical Laboratory Report

Lab Sample ID: S16680.10
Sample Tag: Dupe #1
Collected Date/Time: 08/18/2020 00:01
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	3.7	IR
1	125ml Plastic	HNO3	Yes	3.7	IR
2	40ml Glass	HCL	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/24/20 10:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 11:20	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/18/20 19:10, Analyst: JKB

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

Method: SM3500-Cr B, Run Date: 08/18/20 18:15, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 08/25/20 14:16, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.070	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000279	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	0.001117	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 14:19, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.019	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000281	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	0.002599	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 17:02, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16680.10 (continued)
Sample Tag: Dupe #1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 17:02, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
Vinyl chloride	5	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	1	1	0.10	ug/L	1	75-35-4	
Methylene chloride	0.13	5	0.10	ug/L	1	75-09-2	JB
trans-1,2-Dichloroethene	0.17	1	0.10	ug/L	1	156-60-5	J
1,1-Dichloroethane	0.66	1	0.10	ug/L	1	75-34-3	J
cis-1,2-Dichloroethene	2	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	0.16	1	0.10	ug/L	1	71-43-2	J
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	4	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	0.10	1	0.10	ug/L	1	108-88-3	J
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16680.10 (continued)
Sample Tag: Dupe #1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 17:02, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16680.11
Sample Tag: Trip Blank
Collected Date/Time: 08/18/2020 00:01
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/24/20 10:30	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 13:10, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	0.19	5	0.10	ug/L	1	75-15-0	JB
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	1.23	5	0.10	ug/L	1	75-09-2	JB
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	0.46	90	0.20	ug/L	1	109-99-9	JB
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16680.11 (continued)
Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/21/20 13:10, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	0.100	5	0.040	ug/L	1	87-61-6	JB
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	0.15	5	0.10	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: S16680
Client: APPLIED (Applied Ecosystems)
Project: RACER Flint West #12990
Submitted: 08/18/2020 16:10 Login User: REJ

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

Phone: 810-715-2525 FAX: 810-715-2526
Email: rabke@appliedecosystems.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 3.7
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[X] Yes	[ ] No	[ ] N/A	Do sample have correct chemical preservation	
11.	[X] Yes	[ ] No	[ ] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[X] Yes	[ ] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[X] Yes	[ ] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[X] 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: S16680 Submitted: 08/18/2020 16:10

Client: APPLIED (Applied Ecosystems)

Project: RACER Flint West #12990

Initial Preservation Check: 08/18/2020 16:24 REJ

Preservation Recheck (E200.8): N/A

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

Phone: 810-715-2525 FAX: 810-715-2526
Email: rabke@appliedecosystems.com

Lab ID	125 ml Plastic HNO_3	250 ml Plastic HNO_3	1 L Plastic HNO_3	250 ml Plastic H_2SO_4	125 ml Amber H_2SO_4	32 oz Glass HCl	125 ml Plastic NaOH	125 ml Amber $PbCO_3$ NaOH	pH					Notes
									<2	>12	other	ml add	new pH	
S16680.01	X								X					
S16680.02	X								X					
S16680.03	X								X					
S16680.04	X								X					
S16680.05	X								X					
S16680.06	X								X					
S16680.07	X								X					
S16680.08	X								X					
S16680.09	X								X					
S16680.10	X								X					

Prepared by Merit Laboratories

Merit Laboratories, Inc.

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

C.O.C. PAGE # _____ OF _____

CHAIN OF CUSTODY RECORD

REPORT TO

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

INVOICE TO

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

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

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

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

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	Metals, dissolved*	Metals, Total*	PFAS/PFOS	Special Instructions
166080.01	8-18	10:48	MW-104S	GW	4								X	X	X		* - Metals list incldues:
.02	8-18	9:19	Field Blank	GW	4								X	X	X		Ar, Cr-total, CR-Hex, Cu
.03	8-18	11:20	MW-105S	GW	4								X	X	X		Pb, Se, Zn
.04	8-18	11:44	MW-102S	GW	4								X	X	X		
.05	8-18	12:08	MW-106SR	GW	7								X	X	X	X	166081.01
.06	8-18	12:41	MW-101S	GW	7								X	X	X	X	.02
.07	8-18	13:09	MW-100S	GW	7								X	X	X	X	.03
.08	8-18	13:48	MW-107S	GW	7								X	X	X	X	.04
.09	8-18	14:21	MW-112S	GW	7								X	X	X	X	.05
.10	8-18	—	Dupe #1	GW	7								X	X	X	X	.06
.11																	.07

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Josh Hendrickson ☐ Sampler	DATE: 8-18	TIME: 3:09	
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE: 8/18/20	TIME: 3:09	
RELINQUISHED BY: SIGNATURE/ORGANIZATION:	DATE: 8/18/20	TIME: 16:10	
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE: 8/18/20	TIME: 16:10	

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

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

NOTES: | TEMP. ON ARRIVAL: 3.7

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

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S16741.01(01)
Generated on 08/27/2020

Report to

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

Phone: 810-715-2525 FAX: 810-715-2526
Email: rabke@appliedecosystems.com

Report produced by

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

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

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

Report Summary

Lab Sample ID(s): S16741.01-S16741.10
Project: RACER Flint West #12990
Collected Date(s): 08/19/2020
Submitted Date/Time: 08/19/2020 15:51
Sampled by: Unknown
P.O. #: 795930

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001

Qualifier Descriptions

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

Glossary of Abbreviations

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

Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
SM3500-Cr B	Standard Method 3500 Cr B 2011
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003

Analytical Laboratory Report

Sample Summary (10 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S16741.01	Field Blank	Water	08/19/20 09:29
S16741.02	MW-110s	Groundwater	08/19/20 09:47
S16741.03	MW-108s	Groundwater	08/19/20 10:33
S16741.04	MW-113s	Groundwater	08/19/20 10:56
S16741.05	MW-109s	Groundwater	08/19/20 11:24
S16741.06	MW-114s	Groundwater	08/19/20 12:00
S16741.07	Dupe #2	Groundwater	08/19/20 00:01
S16741.08	MW-111s	Groundwater	08/19/20 12:51
S16741.09	MW-103s	Groundwater	08/19/20 13:29
S16741.10	Equip Blank	Water	08/19/20 13:38

Analytical Laboratory Report

Lab Sample ID: S16741.01
Sample Tag: Field Blank
Collected Date/Time: 08/19/2020 09:29
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	2.1	IR
1	125ml Plastic	HNO3	Yes	2.1	IR
2	40ml Glass	HCL	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/25/20 11:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/19/20 17:00, 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	c

Method: SM3500-Cr B, Run Date: 08/19/20 16:05, 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: 08/25/20 14:40, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	Not detected	0.002	0.000102	mg/L	2	7440-38-2	
Chromium	0.000120	0.005	0.0000386	mg/L	2	7440-47-3	b
Copper	Not detected	0.005	0.000150	mg/L	2	7440-50-8	
Lead	Not detected	0.003	0.0000760	mg/L	2	7439-92-1	
Selenium	Not detected	0.005	0.000838	mg/L	2	7782-49-2	
Zinc	0.000690	0.005	0.000292	mg/L	2	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 14:43, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002	0.000102	mg/L	2	7440-38-2	f
Chromium, Dissolved	0.000137	0.005	0.0000386	mg/L	2	7440-47-3	bf
Copper, Dissolved	Not detected	0.005	0.000150	mg/L	2	7440-50-8	f
Lead, Dissolved	Not detected	0.003	0.0000760	mg/L	2	7439-92-1	f
Selenium, Dissolved	Not detected	0.005	0.000838	mg/L	2	7782-49-2	f
Zinc, Dissolved	0.002769	0.005	0.000292	mg/L	2	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 15:22, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16741.01 (continued)
Sample Tag: Field Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 15:22, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	0.10	5	0.10	ug/L	1	75-15-0	JB
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16741.01 (continued)

Sample Tag: Field Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 15:22, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16741.02
Sample Tag: MW-110s
Collected Date/Time: 08/19/2020 09:47
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	2.1	IR
1	125ml Plastic	HNO3	Yes	2.1	IR
2	40ml Glass	HCL	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/25/20 11:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/19/20 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	c

Method: SM3500-Cr B, Run Date: 08/19/20 16:10, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 08/25/20 14:50, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.001261	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium	0.000458	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	0.001381	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 14:53, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.000616	0.002	0.000255	mg/L	5	7440-38-2	bf
Chromium, Dissolved	0.000393	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	0.000904	0.003	0.000190	mg/L	5	7439-92-1	bf
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	0.003312	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 15:41, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16741.02 (continued)
Sample Tag: MW-110s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 15:41, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	0.17	5	0.10	ug/L	1	74-87-3	J
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

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

Lab Sample ID: S16741.02 (continued)
Sample Tag: MW-110s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 15:41, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16741.03
Sample Tag: MW-108s
Collected Date/Time: 08/19/2020 10:33
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	2.1	IR
1	125ml Plastic	HNO3	Yes	2.1	IR
2	40ml Glass	HCL	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/25/20 11:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/19/20 17:10, Analyst: JKB

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

Method: SM3500-Cr B, Run Date: 08/19/20 16:15, 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: 08/25/20 14:55, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	Not detected	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000207	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.000448	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.004070	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 14:58, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000299	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.000418	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	0.006	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 13:46, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16741.03 (continued)
Sample Tag: MW-108s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 13:46, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	0.12	5	0.10	ug/L	1	75-15-0	JB
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	0.23	5	0.10	ug/L	1	74-87-3	J
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	1	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	3	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	0.26	1	0.10	ug/L	1	79-01-6	J
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16741.03 (continued)
Sample Tag: MW-108s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 13:46, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Analytical Laboratory Report

Lab Sample ID: S16741.04
Sample Tag: MW-113s
Collected Date/Time: 08/19/2020 10:56
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	2.1	IR
1	125ml Plastic	HNO3	Yes	2.1	IR
2	40ml Glass	HCL	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/25/20 11:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/19/20 17:15, Analyst: JKB

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

Method: SM3500-Cr B, Run Date: 08/19/20 16:20, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 08/25/20 15:01, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.004	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.001506	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	0.001634	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 15:04, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.001145	0.002	0.000255	mg/L	5	7440-38-2	bf
Chromium, Dissolved	0.000283	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	0.002057	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 14:05, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16741.04 (continued)
Sample Tag: MW-113s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 14:05, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	0.12	5	0.10	ug/L	1	75-15-0	JB
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	0.31	5	0.10	ug/L	1	74-87-3	J
Vinyl chloride	2	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	0.21	1	0.10	ug/L	1	75-35-4	J
Methylene chloride	0.12	5	0.10	ug/L	1	75-09-2	JB
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	1	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	0.12	1	0.10	ug/L	1	67-66-3	J
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	30	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16741.04 (continued)
Sample Tag: MW-113s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 14:05, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16741.05
Sample Tag: MW-109s
Collected Date/Time: 08/19/2020 11:24
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	2.1	IR
1	125ml Plastic	HNO3	Yes	2.1	IR
2	40ml Glass	HCL	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/25/20 11:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/19/20 17:20, 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	c

Method: SM3500-Cr B, Run Date: 08/19/20 16:25, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 08/25/20 15:13, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.113	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000282	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	0.000245	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	0.001703	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 15:16, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.016	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000170	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	0.002365	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 14:24, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16741.05 (continued)
Sample Tag: MW-109s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 14:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	0.10	5	0.10	ug/L	1	75-15-0	JB
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	0.22	5	0.10	ug/L	1	74-87-3	J
Vinyl chloride	11	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	1	1	0.10	ug/L	1	75-35-4	
Methylene chloride	0.12	5	0.10	ug/L	1	75-09-2	JB
trans-1,2-Dichloroethene	0.57	1	0.10	ug/L	1	156-60-5	J
1,1-Dichloroethane	0.96	1	0.10	ug/L	1	75-34-3	J
cis-1,2-Dichloroethene	14	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	0.15	1	0.10	ug/L	1	71-55-6	J
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	21	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16741.05 (continued)
Sample Tag: MW-109s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 14:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16741.06
Sample Tag: MW-114s
Collected Date/Time: 08/19/2020 12:00
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	2.1	IR
1	125ml Plastic	HNO3	Yes	2.1	IR
2	40ml Glass	HCL	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/25/20 11:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/19/20 17:25, Analyst: JKB

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

Method: SM3500-Cr B, Run Date: 08/19/20 16:30, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 08/25/20 15:19, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.119	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000457	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.001803	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	0.001289	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	0.015	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 08/25/20 15:22, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.020	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000235	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.001604	0.005	0.000377	mg/L	5	7440-50-8	bf
Lead, Dissolved	0.000369	0.003	0.000190	mg/L	5	7439-92-1	bf
Selenium, Dissolved	Not detected	0.005	0.00209	mg/L	5	7782-49-2	f
Zinc, Dissolved	0.008	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 16:00, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100	1.0	ug/L	10	60-29-7	Y

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab
Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S16741.06 (continued)
Sample Tag: MW-114s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 16:00, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	500	85	ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10	0.30	ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50	1.0	ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50	1.0	ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20	1.0	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	4.0	ug/L	10	75-71-8	Y
Chloromethane	Not detected	50	1.0	ug/L	10	74-87-3	Y
Vinyl chloride	10	10	1.0	ug/L	10	75-01-4	Y
Bromomethane	Not detected	50	1.0	ug/L	10	74-83-9	Y
Chloroethane	Not detected	50	2.0	ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10	4.0	ug/L	10	75-69-4	Y
1,1-Dichloroethene	Not detected	10	1.0	ug/L	10	75-35-4	Y
Methylene chloride	10.2	50	1.0	ug/L	10	75-09-2	JYB
trans-1,2-Dichloroethene	1.2	10	1.0	ug/L	10	156-60-5	JY
1,1-Dichloroethane	3.0	10	1.0	ug/L	10	75-34-3	JY
cis-1,2-Dichloroethene	130	10	1.0	ug/L	10	156-59-2	Y
Tetrahydrofuran*	7.6	900	2.0	ug/L	10	109-99-9	JYB
Chloroform	Not detected	10	1.0	ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10	1.0	ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	1.9	10	1.0	ug/L	10	71-55-6	JY
4-Methyl-2-pentanone (MIBK)	Not detected	500	1.0	ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500	1.0	ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10	1.0	ug/L	10	56-23-5	Y
Benzene	Not detected	10	1.0	ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10	1.0	ug/L	10	107-06-2	Y
Trichloroethene	310	10	1.0	ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10	1.0	ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10	1.0	ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50	1.0	ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10	1.0	ug/L	10	10061-01-5	Y
Toluene	Not detected	10	1.0	ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10	1.0	ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10	0.50	ug/L	10	79-00-5	Y
Tetrachloroethene	Not detected	10	2.0	ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10	1.0	ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50	0.20	ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10	1.0	ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10	1.0	ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10	1.0	ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10	1.0	ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20	2.0	ug/L	10		Y
o-Xylene	Not detected	10	0.50	ug/L	10	95-47-6	Y
Styrene	Not detected	10	1.0	ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50	0.30	ug/L	10	98-82-8	Y
Bromoform	Not detected	10	1.0	ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10	0.50	ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10	1.0	ug/L	10	96-18-4	Y

Y-Elevated reporting limit due to high target concentration
J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16741.06 (continued)
Sample Tag: MW-114s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 16:00, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
n-Propylbenzene	Not detected	10	1.0	ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10	1.0	ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10	1.0	ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10	1.0	ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10	1.0	ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10	0.50	ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50	0.40	ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10	1.0	ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10	1.0	ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10	1.0	ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10	0.40	ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10	0.40	ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50	1.0	ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50	1.0	ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50	1.0	ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50	0.40	ug/L	10	87-61-6	Y
Naphthalene	Not detected	50	1.0	ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50	1.0	ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S16741.07
Sample Tag: Dupe #2
Collected Date/Time: 08/19/2020 00:01
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	2.1	IR
1	125ml Plastic	HNO3	Yes	2.1	IR
2	40ml Glass	HCL	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/25/20 11:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/19/20 17:30, 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	c

Method: SM3500-Cr B, Run Date: 08/19/20 16:35, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 08/25/20 15:26, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.114	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000428	0.005	0.0000965	mg/L	5	7440-47-3	b
Copper	0.001587	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	0.001194	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	0.016	0.005	0.000730	mg/L	5	7440-66-6	

Method: E200.8, Run Date: 08/25/20 15:28, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.021	0.002	0.000255	mg/L	5	7440-38-2	f
Chromium, Dissolved	0.000138	0.005	0.0000965	mg/L	5	7440-47-3	bf
Copper, Dissolved	0.053	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	0.007	0.005	0.000730	mg/L	5	7440-66-6	f

Organics - Volatiles

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

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100	1.0	ug/L	10	60-29-7	Y

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab
Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S16741.07 (continued)
Sample Tag: Dupe #2

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

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	500	85	ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10	0.30	ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50	1.0	ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50	1.0	ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20	1.0	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	4.0	ug/L	10	75-71-8	Y
Chloromethane	Not detected	50	1.0	ug/L	10	74-87-3	Y
Vinyl chloride	10	10	1.0	ug/L	10	75-01-4	Y
Bromomethane	Not detected	50	1.0	ug/L	10	74-83-9	Y
Chloroethane	Not detected	50	2.0	ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10	4.0	ug/L	10	75-69-4	Y
1,1-Dichloroethene	Not detected	10	1.0	ug/L	10	75-35-4	Y
Methylene chloride	9.9	50	1.0	ug/L	10	75-09-2	JYB
trans-1,2-Dichloroethene	1.0	10	1.0	ug/L	10	156-60-5	JY
1,1-Dichloroethane	3.1	10	1.0	ug/L	10	75-34-3	JY
cis-1,2-Dichloroethene	120	10	1.0	ug/L	10	156-59-2	Y
Tetrahydrofuran*	7.2	900	2.0	ug/L	10	109-99-9	JYB
Chloroform	Not detected	10	1.0	ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10	1.0	ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	1.9	10	1.0	ug/L	10	71-55-6	JY
4-Methyl-2-pentanone (MIBK)	Not detected	500	1.0	ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500	1.0	ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10	1.0	ug/L	10	56-23-5	Y
Benzene	Not detected	10	1.0	ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10	1.0	ug/L	10	107-06-2	Y
Trichloroethene	290	10	1.0	ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10	1.0	ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10	1.0	ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50	1.0	ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10	1.0	ug/L	10	10061-01-5	Y
Toluene	Not detected	10	1.0	ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10	1.0	ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10	0.50	ug/L	10	79-00-5	Y
Tetrachloroethene	Not detected	10	2.0	ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10	1.0	ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50	0.20	ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10	1.0	ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10	1.0	ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10	1.0	ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10	1.0	ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20	2.0	ug/L	10		Y
o-Xylene	Not detected	10	0.50	ug/L	10	95-47-6	Y
Styrene	Not detected	10	1.0	ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50	0.30	ug/L	10	98-82-8	Y
Bromoform	Not detected	10	1.0	ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10	0.50	ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10	1.0	ug/L	10	96-18-4	Y

Y-Elevated reporting limit due to high target concentration
J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16741.07 (continued)
Sample Tag: Dupe #2

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

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
n-Propylbenzene	Not detected	10	1.0	ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10	1.0	ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10	1.0	ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10	1.0	ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10	1.0	ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10	0.50	ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50	0.40	ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10	1.0	ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10	1.0	ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10	1.0	ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10	0.40	ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10	0.40	ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50	1.0	ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50	1.0	ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50	1.0	ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50	0.40	ug/L	10	87-61-6	Y
Naphthalene	Not detected	50	1.0	ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50	1.0	ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S16741.08
Sample Tag: MW-111s
Collected Date/Time: 08/19/2020 12:51
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	2.1	IR
1	125ml Plastic	HNO3	Yes	2.1	IR
2	40ml Glass	HCL	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/25/20 11:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/19/20 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	c

Method: SM3500-Cr B, Run Date: 08/19/20 16:40, 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: 08/25/20 15:31, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.000676	0.002	0.000255	mg/L	5	7440-38-2	b
Chromium	0.007	0.005	0.0000965	mg/L	5	7440-47-3	
Copper	0.000392	0.005	0.000377	mg/L	5	7440-50-8	b
Lead	Not detected	0.003	0.000190	mg/L	5	7439-92-1	
Selenium	Not detected	0.005	0.00209	mg/L	5	7782-49-2	
Zinc	0.001424	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 15:33, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.000589	0.002	0.000255	mg/L	5	7440-38-2	bf
Chromium, Dissolved	0.005	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	0.003689	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 14:43, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16741.08 (continued)
Sample Tag: MW-111s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 14:43, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	0.10	5	0.10	ug/L	1	75-15-0	JB
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	0.20	5	0.10	ug/L	1	74-87-3	J
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	0.13	5	0.10	ug/L	1	75-09-2	JB
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	1	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	0.11	1	0.10	ug/L	1	67-66-3	J
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	8	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16741.08 (continued)
Sample Tag: MW-111s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 14:43, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

Lab Sample ID: S16741.09
Sample Tag: MW-103s
Collected Date/Time: 08/19/2020 13:29
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	2.1	IR
1	125ml Plastic	HNO3	Yes	2.1	IR
2	40ml Glass	HCL	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/25/20 11:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/19/20 17:40, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium VI, Dissolved	Not detected	0.02	0.01	mg/L	2.5	18540-29-9	c

Method: SM3500-Cr B, Run Date: 08/19/20 16:45, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 08/25/20 15:35, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.064	0.002	0.000255	mg/L	5	7440-38-2	
Chromium	0.000221	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	0.001046	0.005	0.000730	mg/L	5	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 15:38, 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	0.000174	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	0.002013	0.005	0.000730	mg/L	5	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 15:02, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16741.09 (continued)
Sample Tag: MW-103s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 15:02, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.10	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	0.91	5	0.10	ug/L	1	74-87-3	J
Vinyl chloride	0.99	1	0.10	ug/L	1	75-01-4	J
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.10	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	0.44	1	0.10	ug/L	1	156-59-2	J
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	0.91	1	0.10	ug/L	1	71-43-2	J
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	0.19	1	0.10	ug/L	1	108-88-3	J
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	3	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

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

Lab Sample ID: S16741.09 (continued)
Sample Tag: MW-103s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 15:02, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	0.13	1	0.10	ug/L	1	95-50-1	J
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.10	ug/L	1	91-57-6	

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

Lab Sample ID: S16741.10
Sample Tag: Equip Blank
Collected Date/Time: 08/19/2020 13:38
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	2.1	IR
1	125ml Plastic	HNO3	Yes	2.1	IR
2	40ml Glass	HCL	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	08/25/20 11:30	JML	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	
Metal Digestion	Completed	SW3015A	08/25/20 12:40	CCM	

Inorganics

Method: SM3500-Cr B, Run Date: 08/19/20 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	c

Method: SM3500-Cr B, Run Date: 08/19/20 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: 08/25/20 14:44, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	Not detected	0.002	0.000102	mg/L	2	7440-38-2	
Chromium	0.000112	0.005	0.0000386	mg/L	2	7440-47-3	b
Copper	Not detected	0.005	0.000150	mg/L	2	7440-50-8	
Lead	Not detected	0.003	0.0000760	mg/L	2	7439-92-1	
Selenium	Not detected	0.005	0.000838	mg/L	2	7782-49-2	
Zinc	0.000483	0.005	0.000292	mg/L	2	7440-66-6	b

Method: E200.8, Run Date: 08/25/20 14:46, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002	0.000102	mg/L	2	7440-38-2	f
Chromium, Dissolved	0.000095	0.005	0.0000386	mg/L	2	7440-47-3	bf
Copper, Dissolved	Not detected	0.005	0.000150	mg/L	2	7440-50-8	f
Lead, Dissolved	Not detected	0.003	0.0000760	mg/L	2	7439-92-1	f
Selenium, Dissolved	Not detected	0.005	0.000838	mg/L	2	7782-49-2	f
Zinc, Dissolved	0.002785	0.005	0.000292	mg/L	2	7440-66-6	bf

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 12:29, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.10	ug/L	1	60-29-7	
Acetone	Not detected	50	8.5	ug/L	1	67-64-1	

c-Filtered in lab
b-Value detected less than reporting limit, but greater than MDL
f-Filtered and preserved in lab

Lab Sample ID: S16741.10 (continued)
Sample Tag: Equip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 12:29, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Methyl iodide	Not detected	1	0.030	ug/L	1	74-88-4	
Carbon disulfide	0.19	5	0.10	ug/L	1	75-15-0	JB
tert-Methyl butyl ether (MTBE)	Not detected	5	0.10	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.10	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	4.7	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.40	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.10	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.10	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.10	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.20	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.40	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.10	ug/L	1	75-35-4	
Methylene chloride	0.15	5	0.10	ug/L	1	75-09-2	JB
trans-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.10	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.10	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	0.20	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.10	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.10	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.10	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.10	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.10	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.10	ug/L	1	56-23-5	
Benzene	Not detected	1	0.10	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.10	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.10	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.10	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.10	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.10	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.10	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.10	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.050	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.10	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.020	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.10	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.10	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.10	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.10	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.20	ug/L	1		
o-Xylene	Not detected	1	0.050	ug/L	1	95-47-6	
Styrene	Not detected	1	0.10	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.030	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.10	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.050	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.10	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.10	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.10	ug/L	1	108-86-1	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S16741.10 (continued)
Sample Tag: Equip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 08/24/20 12:29, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3,5-Trimethylbenzene	Not detected	1	0.10	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.10	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.10	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.050	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.040	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.10	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.10	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.10	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.040	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.040	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.10	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.10	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.10	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.040	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.10	ug/L	1	91-20-3	
2-Methylnaphthalene	0.15	5	0.10	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: S16741
Client: APPLIED (Applied Ecosystems)
Project: RACER Flint West #12990
Submitted: 08/19/2020 15:51 Login User: SRS

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

Phone: 810-715-2525 FAX: 810-715-2526
Email: rabke@appliedecosystems.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 2.1
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[X] Yes	[ ] No	[ ] N/A	Do sample have correct chemical preservation	
11.	[X] Yes	[ ] No	[ ] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[X] Yes	[ ] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[X] Yes	[ ] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[X] 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: S16741 Submitted: 08/19/2020 15:51

Client: APPLIED (Applied Ecosystems)

Project: RACER Flint West #12990

Initial Preservation Check: 08/19/2020 16:16 SRS

Preservation Recheck (E200.8): N/A

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

Phone: 810-715-2525 FAX: 810-715-2526
Email: rabke@appliedecosystems.com

Lab ID	125 ml Plastic HNO_3	250 ml Plastic HNO_3	1 L Plastic HNO_3	250 ml Plastic H_2SO_4	125 ml Amber H_2SO_4	32 oz Glass HCl	125 ml Plastic NaOH	125 ml Amber $PbCO_3$ NaOH	pH					Notes
									<2	>12	other	ml add	new pH	
S16741.01	X								X					
S16741.02	X								X					
S16741.03	X								X					
S16741.04	X								X					
S16741.05	X								X					
S16741.06	X								X					
S16741.07	X								X					
S16741.08	X								X					
S16741.09	X								X					
S16741.10	X								X					

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

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD

REPORT TO

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

INVOICE TO

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

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

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

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

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	Metals, dissolved*	Metals, Total*	PFAS/PFOS**	
16741.01	8-19-20	9:29	Field Blank		5								X	X	X	X	
.02	8-19-20	9:47	MW-110s	GW	7								X	X	X	X	
.03	8-19-20	10:33	MW-108s	GW	4								X	X	X		
.04	8-19-20	10:56	MW-113s	GW	7								X	X	X	X	
.05	8-19-20	11:24	MW-109s	GW	7								X	X	X	X	
.06	8-19-20	12:00	MW-114s	GW	7								X	X	X	X	
.07	8-19-20	—	Dupe #2	GW	7								X	X	X	X	
.08	8-19-20	12:57	MW-111s	GW	7								X	X	X	X	
.09	8-19-20	13:29	MW-103s	GW	7								X	X	X	X	
.10	8-19-20	13:38	Equip Blank		7								X	X	X	X	

Special Instructions:
* - Metals list incldues: Ar, Cr-total, CR-Hex, Cu, Pb, Se, Zn
** - PFC 28 Compound List, low level

16742.01 .02 .03 .04 .05 .06 .07 .08 .09 .10

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Josh Henderson AE ☑ Sampler	DATE: 8-19	TIME: 2:00	
RECEIVED BY: SIGNATURE/ORGANIZATION: AE	DATE: 8-19	TIME: 2:00	
RELINQUISHED BY: SIGNATURE/ORGANIZATION: AE	DATE: 8/19/20	TIME: 15:50	
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE: 8/19/20	TIME: 15:50	

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Doug A. Mills	DATE: 8/19/20	TIME: 15:51	
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE: 8/19/20	TIME: 1551	

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

NOTES: TEMP. ON ARRIVAL 2.1

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

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S16681.01(01)
Generated on 09/09/2020

Report to

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

Phone: 810-715-2525 FAX: 810-715-2526
Email: rabke@appliedecosystems.com

Report produced by

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

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

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

Report Summary

Lab Sample ID(s): S16681.01-S16681.07
Project: RACER Flint West #12990
Collected Date(s): 08/18/2020
Submitted Date/Time: 08/18/2020 16:10
Sampled by: Unknown
P.O. #: 795930

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001

Qualifier Descriptions

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

Glossary of Abbreviations

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

Method Summary

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

Parameter Summary

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

Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S16681.01	MW-106SR	Groundwater	08/18/20 12:08
S16681.02	MW-101S	Groundwater	08/18/20 12:41
S16681.03	MW-100S	Groundwater	08/18/20 13:09
S16681.04	MW-107S	Groundwater	08/18/20 13:48
S16681.05	MW-112S	Groundwater	08/18/20 14:21
S16681.06	Dupe #1	Groundwater	08/18/20 00:01
S16681.07	Field Blank	Groundwater	08/18/20 09:33

Analytical Laboratory Report

Lab Sample ID: S16681.01
Sample Tag: MW-106SR
Collected Date/Time: 08/18/2020 12:08
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.37/6.88/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 03:22, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2	375-22-4	
PFPeA*	3.1	4.0	1.0	ng/L	2	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2	757124-72-4	
PFHxA*	3.7	2.0	1.4	ng/L	2	307-24-4	
PFBS*	3.2	2.0	1.4	ng/L	2	375-73-5	
PFHpA*	3.0	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*	11	2.0	1.6	ng/L	2	335-67-1	
PFHxS*	3.1	2.0	1.6	ng/L	2	355-46-4	
PFHxS-LN*	2.3	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*	7.3	2.0	2.0	ng/L	2	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2	1763-23-1-LN	
PFOS-BR*	5.8	2.0	2.0	ng/L	2	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	2	13252-13-6	

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

Analytical Laboratory Report

Lab Sample ID: S16681.02
Sample Tag: MW-101S
Collected Date/Time: 08/18/2020 12:41
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.09/6.90/10	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 03:41, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.7	9.7	ng/L	1.93	375-22-4	
PFPeA*	1.9	3.9	0.97	ng/L	1.93	2706-90-3	J
4:2 FTSA*	Not detected	1.9	1.5	ng/L	1.93	757124-72-4	
PFHxA*	Not detected	1.9	1.4	ng/L	1.93	307-24-4	
PFBS*	1.9	1.9	1.4	ng/L	1.93	375-73-5	
PFHpA*	Not detected	1.9	1.4	ng/L	1.93	375-85-9	
PFPeS*	Not detected	1.9	1.7	ng/L	1.93	2706-91-4	
6:2 FTSA*	Not detected	1.9	1.9	ng/L	1.93	27619-97-2	
PFOA*	3.2	1.9	1.5	ng/L	1.93	335-67-1	
PFHxS*	1.9	1.9	1.5	ng/L	1.93	355-46-4	J
PFHxS-LN*	1.6	1.9	1.5	ng/L	1.93	355-46-4-LN	J
PFHxS-BR*	Not detected	1.9	1.5	ng/L	1.93	355-46-4-BR	
PFNA*	Not detected	1.9	1.7	ng/L	1.93	375-95-1	
8:2 FTSA*	Not detected	1.9	0.97	ng/L	1.93	39108-34-4	
PFHpS*	Not detected	1.9	1.9	ng/L	1.93	375-92-8	
PFDA*	Not detected	1.9	1.9	ng/L	1.93	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.93	2355-31-9	
EtFOSAA*	Not detected	3.9	1.9	ng/L	1.93	2991-50-6	
PFOS*	30	1.9	1.9	ng/L	1.93	1763-23-1	
PFOS-LN*	12	1.9	1.9	ng/L	1.93	1763-23-1-LN	
PFOS-BR*	18	1.9	1.9	ng/L	1.93	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.4	ng/L	1.93	2058-94-8	
PFNS*	Not detected	1.9	1.4	ng/L	1.93	68259-12-1	
PFDoDA*	Not detected	1.9	1.5	ng/L	1.93	307-55-1	
PFDS*	Not detected	1.9	1.4	ng/L	1.93	335-77-3	
PFTrDA*	Not detected	1.9	1.2	ng/L	1.93	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.93	754-91-6	
PFTeDA*	Not detected	3.9	1.7	ng/L	1.93	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.93	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.4	ng/L	1.93	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.93	919005-14-4	
HFPO-DA*	Not detected	1.9	1.9	ng/L	1.93	13252-13-6	

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

Analytical Laboratory Report

Lab Sample ID: S16681.03
Sample Tag: MW-100S
Collected Date/Time: 08/18/2020 13:09
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.55/6.92/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 04:01, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.8	9.8	ng/L	1.95	375-22-4	
PFPeA*	Not detected	3.9	0.98	ng/L	1.95	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.95	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	1.95	307-24-4	
PFBS*	1.6	2.0	1.4	ng/L	1.95	375-73-5	J
PFHpA*	Not detected	2.0	1.4	ng/L	1.95	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.95	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.95	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	1.95	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	1.95	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.95	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.95	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.95	375-95-1	
8:2 FTSA*	Not detected	2.0	0.98	ng/L	1.95	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.95	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.95	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.95	2355-31-9	
EtFOSAA*	Not detected	3.9	2.0	ng/L	1.95	2991-50-6	
PFOS*	18	2.0	1.9	ng/L	1.95	1763-23-1	
PFOS-LN*	8.5	2.0	1.9	ng/L	1.95	1763-23-1-LN	
PFOS-BR*	8.9	2.0	1.9	ng/L	1.95	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.95	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.95	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	1.95	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.95	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	1.95	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.95	754-91-6	
PFTeDA*	Not detected	3.9	1.8	ng/L	1.95	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.95	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.95	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.95	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	1.95	13252-13-6	

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

Analytical Laboratory Report

Lab Sample ID: S16681.04
Sample Tag: MW-107S
Collected Date/Time: 08/18/2020 13:48
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.22/6.91/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 04:20, 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*	24	2.1	2.0	ng/L	2.07	1763-23-1	
PFOS-LN*	15	2.1	2.0	ng/L	2.07	1763-23-1-LN	
PFOS-BR*	7.1	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	
PFTrDA*	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	I
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.07	763051-92-9	
9Cl-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	2.1	2.1	ng/L	2.07	13252-13-6	

I-Matrix interference with internal standard

Analytical Laboratory Report

Lab Sample ID: S16681.05
Sample Tag: MW-112S
Collected Date/Time: 08/18/2020 14:21
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.48/6.93/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 04:40, 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*	Not detected	4.0	0.99	ng/L	1.98	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.98	757124-72-4	I
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*	Not detected	2.0	1.6	ng/L	1.98	335-67-1	
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*	11	2.0	1.9	ng/L	1.98	1763-23-1	
PFOS-LN*	5.2	2.0	1.9	ng/L	1.98	1763-23-1-LN	
PFOS-BR*	4.9	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	
PFTrDA*	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	I
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	

I-Matrix interference with internal standard

Analytical Laboratory Report

Lab Sample ID: S16681.06
Sample Tag: Dupe #1
Collected Date/Time: 08/18/2020 00:01
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.20/6.88/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 04:59, 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	I
PFHxA*	Not detected	2.1	1.4	ng/L	2.07	307-24-4	
PFBS*	1.8	2.1	1.4	ng/L	2.07	375-73-5	J
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*	13	2.1	2.0	ng/L	2.07	1763-23-1	
PFOS-LN*	5.9	2.1	2.0	ng/L	2.07	1763-23-1-LN	
PFOS-BR*	5.8	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	
PFTrDA*	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	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.07	763051-92-9	
9Cl-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	2.1	2.1	ng/L	2.07	13252-13-6	

I-Matrix interference with internal standard
J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S16681.07
Sample Tag: Field Blank
Collected Date/Time: 08/18/2020 09:33
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	3.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.45/6.84/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 05:19, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.8	9.8	ng/L	1.96	375-22-4	
PFPeA*	Not detected	3.9	0.98	ng/L	1.96	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.96	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	1.96	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.96	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.96	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.96	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.96	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	1.96	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	1.96	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.96	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.96	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.96	375-95-1	
8:2 FTSA*	Not detected	2.0	0.98	ng/L	1.96	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.96	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.96	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.96	2355-31-9	
EtFOSAA*	Not detected	3.9	2.0	ng/L	1.96	2991-50-6	
PFOS*	Not detected	2.0	1.9	ng/L	1.96	1763-23-1	
PFOS-LN*	Not detected	2.0	1.9	ng/L	1.96	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	1.9	ng/L	1.96	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.96	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.96	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	1.96	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.96	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	1.96	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.96	754-91-6	
PFTeDA*	Not detected	3.9	1.8	ng/L	1.96	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.96	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.96	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.96	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	1.96	13252-13-6	

Merit Laboratories Login Checklist

Lab Set ID: S16681
Client: APPLIED (Applied Ecosystems)
Project: RACER Flint West #12990
Submitted: 08/18/2020 16:10 Login User: REJ

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

Phone: 810-715-2525 FAX: 810-715-2526
Email: rabke@appliedecosystems.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 3.7
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[ ] Yes	[X] No	[ ] N/A	COC adequately filled out	Field Blank not listed
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[ ] Yes	[ ] No	[X] N/A	Do sample have correct chemical preservation	
11.	[ ] Yes	[ ] No	[X] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] N/A	Do water VOC or TOX bottles contain headspace	

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

Client Review By: _____ Date: _____

Merit Laboratories, Inc.

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

C.O.C. PAGE # ______ OF ______

CHAIN OF CUSTODY RECORD

REPORT TO

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

INVOICE TO

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

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

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

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

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

MERIT LAB NO. (FOR LAB USE ONLY)	DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	Metals, dissolved*	Metals, Total*	PFAS/PFOS	Special Instructions
166080.01	8-18	10:48	MW-104S	GW	4								X	X	X		* - Metals list incldues:
.02	8-18	9:19	Field Blank	GW	4								X	X	X		Ar, Cr-total, CR-Hex, Cu
.03	8-18	11:20	MW-105S	GW	4								X	X	X		Pb, Se, Zn
.04	8-18	11:44	MW-102S	GW	4								X	X	X		
.05	8-18	12:08	MW-106SR	GW	7								X	X	X	X	16681.01
.06	8-18	12:41	MW-101S	GW	7								X	X	X	X	.02
.07	8-18	13:09	MW-100S	GW	7								X	X	X	X	.03
.08	8-18	13:48	MW-107S	GW	7								X	X	X	X	.04
.09	8-18	14:21	MW-112S	GW	7								X	X	X	X	.05
.10	8-18	—	Dupe #1	GW	7								X	X	X	X	.06
.11																	.07

		DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION	Josh Hendrickson ☒ Sampler	8-18	3:08
RECEIVED BY: SIGNATURE/ORGANIZATION	[signature]	8/18/20	3:05
RELINQUISHED BY: SIGNATURE/ORGANIZATION	[signature]	8/18/20	16:10
RECEIVED BY: SIGNATURE/ORGANIZATION	[signature]	8/18/20	16:10

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

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

NOTES: 3.7 TEMP. ON ARRIVAL ______

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

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S16742.01(01)
Generated on 09/10/2020

Report to

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

Phone: 810-715-2525 FAX: 810-715-2526
Email: rabke@appliedecosystems.com

Report produced by

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

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

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

Report Summary

Lab Sample ID(s): S16742.01-S16742.10
Project: RACER Flint West #12990
Collected Date(s): 08/19/2020
Submitted Date/Time: 08/19/2020 15:51
Sampled by: Unknown
P.O. #: 795930

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001

Qualifier Descriptions

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

Glossary of Abbreviations

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

Method Summary

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

Parameter Summary

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

Sample Summary (10 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S16742.01	Field Blank	Water	08/19/20 09:29
S16742.02	MW-110s	Groundwater	08/19/20 09:47
S16742.03	MW-113s	Groundwater	08/19/20 10:56
S16742.04	MW-109s	Groundwater	08/19/20 11:24
S16742.05	MW-114s	Groundwater	08/19/20 12:00
S16742.06	Dupe#2	Groundwater	08/19/20 00:01
S16742.07	MW-111s	Groundwater	08/19/20 12:51
S16742.08	MW-103s	Groundwater	08/19/20 13:29
S16742.09	Equip Blank	Water	08/19/20 13:38
S16742.10	Trip Blank	Water	08/19/20 00:01

Analytical Laboratory Report

Lab Sample ID: S16742.01
Sample Tag: Field Blank
Collected Date/Time: 08/19/2020 09:29
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.83/6.94/10	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 06:17, 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	
PFTrDA*	Not detected	2.0	1.2	ng/L	2.04	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.04	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.04	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.04	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.04	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.04	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	2.04	13252-13-6	

Analytical Laboratory Report

Lab Sample ID: S16742.02
Sample Tag: MW-110s
Collected Date/Time: 08/19/2020 09:47
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.44/6.90/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 06:37, 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*	1.1	4.0	1.00	ng/L	1.99	2706-90-3	J
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*	1.9	2.0	1.4	ng/L	1.99	375-73-5	J
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*	2.8	2.0	1.6	ng/L	1.99	335-67-1	
PFHxS*	2.0	2.0	1.6	ng/L	1.99	355-46-4	J
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*	5.9	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*	4.5	2.0	2.0	ng/L	1.99	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.99	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.99	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	1.99	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.99	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	1.99	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.99	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	1.99	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.99	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.99	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.99	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	1.99	13252-13-6	

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

Lab Sample ID: S16742.03
Sample Tag: MW-113s
Collected Date/Time: 08/19/2020 10:56
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.52/6.86/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 06:56, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.7	9.7	ng/L	1.94	375-22-4	
PFPeA*	1.0	3.9	0.97	ng/L	1.94	2706-90-3	J
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*	1.8	1.9	1.4	ng/L	1.94	375-73-5	J
PFHpA*	Not detected	1.9	1.4	ng/L	1.94	375-85-9	
PFPeS*	Not detected	1.9	1.7	ng/L	1.94	2706-91-4	
6:2 FTSA*	Not detected	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*	3.1	1.9	1.6	ng/L	1.94	355-46-4	
PFHxS-LN*	2.6	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*	26	1.9	1.9	ng/L	1.94	1763-23-1	
PFOS-LN*	5.7	1.9	1.9	ng/L	1.94	1763-23-1-LN	
PFOS-BR*	19	1.9	1.9	ng/L	1.94	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.4	ng/L	1.94	2058-94-8	
PFNS*	Not detected	1.9	1.4	ng/L	1.94	68259-12-1	
PFDoDA*	Not detected	1.9	1.6	ng/L	1.94	307-55-1	
PFDS*	Not detected	1.9	1.4	ng/L	1.94	335-77-3	
PFTrDA*	Not detected	1.9	1.2	ng/L	1.94	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.94	754-91-6	
PFTeDA*	Not detected	3.9	1.7	ng/L	1.94	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.94	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.4	ng/L	1.94	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.94	919005-14-4	
HFPO-DA*	Not detected	1.9	1.9	ng/L	1.94	13252-13-6	

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

Analytical Laboratory Report

Lab Sample ID: S16742.04
Sample Tag: MW-109s
Collected Date/Time: 08/19/2020 11:24
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.39/6.89/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 07:16, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2	375-22-4	
PFPeA*	3.6	4.0	1.0	ng/L	2	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2	757124-72-4	
PFHxA*	3.2	2.0	1.4	ng/L	2	307-24-4	
PFBS*	2.7	2.0	1.4	ng/L	2	375-73-5	
PFHpA*	1.5	2.0	1.4	ng/L	2	375-85-9	J
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*	3.1	2.0	1.6	ng/L	2	335-67-1	
PFHxS*	2.5	2.0	1.6	ng/L	2	355-46-4	
PFHxS-LN*	1.8	2.0	1.6	ng/L	2	355-46-4-LN	J
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*	29	2.0	2.0	ng/L	2	1763-23-1	
PFOS-LN*	15	2.0	2.0	ng/L	2	1763-23-1-LN	
PFOS-BR*	13	2.0	2.0	ng/L	2	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	2	13252-13-6	

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

Analytical Laboratory Report

Lab Sample ID: S16742.05
Sample Tag: MW-114s
Collected Date/Time: 08/19/2020 12:00
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.55/6.87/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 07:35, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.7	9.7	ng/L	1.94	375-22-4	
PFPeA*	1.1	3.9	0.97	ng/L	1.94	2706-90-3	J
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*	1.8	1.9	1.4	ng/L	1.94	375-73-5	J
PFHpA*	Not detected	1.9	1.4	ng/L	1.94	375-85-9	
PFPeS*	Not detected	1.9	1.7	ng/L	1.94	2706-91-4	
6:2 FTSA*	Not detected	1.9	1.9	ng/L	1.94	27619-97-2	
PFOA*	1.8	1.9	1.6	ng/L	1.94	335-67-1	J
PFHxS*	2.3	1.9	1.6	ng/L	1.94	355-46-4	
PFHxS-LN*	1.6	1.9	1.6	ng/L	1.94	355-46-4-LN	J
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*	29	1.9	1.9	ng/L	1.94	1763-23-1	
PFOS-LN*	18	1.9	1.9	ng/L	1.94	1763-23-1-LN	
PFOS-BR*	12	1.9	1.9	ng/L	1.94	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.4	ng/L	1.94	2058-94-8	
PFNS*	Not detected	1.9	1.4	ng/L	1.94	68259-12-1	
PFDoDA*	Not detected	1.9	1.6	ng/L	1.94	307-55-1	
PFDS*	Not detected	1.9	1.4	ng/L	1.94	335-77-3	
PFTrDA*	Not detected	1.9	1.2	ng/L	1.94	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.94	754-91-6	
PFTeDA*	Not detected	3.9	1.7	ng/L	1.94	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.94	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.4	ng/L	1.94	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.94	919005-14-4	
HFPO-DA*	Not detected	1.9	1.9	ng/L	1.94	13252-13-6	

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

Analytical Laboratory Report

Lab Sample ID: S16742.06
Sample Tag: Dupe#2
Collected Date/Time: 08/19/2020 00:01
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.28/6.85/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 11:52, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.03	375-22-4	
PFPeA*	1.1	4.1	1.0	ng/L	2.03	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.03	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2.03	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2.03	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.03	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.03	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.03	27619-97-2	
PFOA*	2.1	2.0	1.6	ng/L	2.03	335-67-1	
PFHxS*	3.1	2.0	1.6	ng/L	2.03	355-46-4	
PFHxS-LN*	2.4	2.0	1.6	ng/L	2.03	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.03	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.03	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.03	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.03	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.03	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.03	2355-31-9	
EtFOSAA*	Not detected	4.1	2.0	ng/L	2.03	2991-50-6	
PFOS*	36	2.0	2.0	ng/L	2.03	1763-23-1	
PFOS-LN*	21	2.0	2.0	ng/L	2.03	1763-23-1-LN	
PFOS-BR*	14	2.0	2.0	ng/L	2.03	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.03	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.03	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2.03	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.03	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2.03	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.03	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.03	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.03	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.03	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.03	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	2.03	13252-13-6	

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

Analytical Laboratory Report

Lab Sample ID: S16742.07
Sample Tag: MW-111s
Collected Date/Time: 08/19/2020 12:51
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	11.75/6.92/10	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 10:14, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.07	375-22-4	
PFPeA*	2.4	4.1	1.0	ng/L	2.07	2706-90-3	J
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.07	757124-72-4	
PFHxA*	1.6	2.1	1.4	ng/L	2.07	307-24-4	J
PFBS*	1.5	2.1	1.4	ng/L	2.07	375-73-5	J
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*	3.0	2.1	1.7	ng/L	2.07	335-67-1	
PFHxS*	1.9	2.1	1.7	ng/L	2.07	355-46-4	J
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*	33	2.1	2.0	ng/L	2.07	1763-23-1	
PFOS-LN*	17	2.1	2.0	ng/L	2.07	1763-23-1-LN	
PFOS-BR*	15	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	
PFTrDA*	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	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.07	763051-92-9	
9Cl-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	2.1	2.1	ng/L	2.07	13252-13-6	

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

Lab Sample ID: S16742.08
Sample Tag: MW-103s
Collected Date/Time: 08/19/2020 13:29
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.41/6.95/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 10:34, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.01	375-22-4	
PFPeA*	Not detected	4.0	1.0	ng/L	2.01	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.01	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2.01	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2.01	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.01	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.01	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.01	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	2.01	335-67-1	
PFHxS*	2.2	2.0	1.6	ng/L	2.01	355-46-4	
PFHxS-LN*	2.2	2.0	1.6	ng/L	2.01	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.01	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.01	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.01	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.01	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.01	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.01	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2.01	2991-50-6	
PFOS*	120	2.0	2.0	ng/L	2.01	1763-23-1	
PFOS-LN*	81	2.0	2.0	ng/L	2.01	1763-23-1-LN	
PFOS-BR*	40	2.0	2.0	ng/L	2.01	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.01	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.01	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2.01	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.01	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2.01	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.01	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2.01	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.01	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.01	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.01	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	2.01	13252-13-6	

Analytical Laboratory Report

Lab Sample ID: S16742.09
Sample Tag: Equip Blank
Collected Date/Time: 08/19/2020 13:38
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.47/6.88/11	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 10:53, Analyst: KCV

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

Analytical Laboratory Report

Lab Sample ID: S16742.10
Sample Tag: Trip Blank
Collected Date/Time: 08/19/2020 00:01
Matrix: Water
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.02/6.95/10	ASTMD7979-19M	08/26/20 14:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 09/04/20 11:13, Analyst: KCV

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

Merit Laboratories Login Checklist

Lab Set ID: S16742
Client: APPLIED (Applied Ecosystems)
Project: RACER Flint West #12990
Submitted: 08/19/2020 15:51 Login User: SRS

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

Phone: 810-715-2525 FAX: 810-715-2526
Email: rabke@appliedecosystems.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 2.1
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[ ] Yes	[X] No	[ ] N/A	COC adequately filled out	Trip blank not listed on COC
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[ ] Yes	[ ] No	[X] N/A	Do sample have correct chemical preservation	
11.	[ ] Yes	[ ] No	[X] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] N/A	Do water VOC or TOX bottles contain headspace	

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

Client Review By: _____ Date: _____

Merit Laboratories, Inc.

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

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD

REPORT TO

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

INVOICE TO

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

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

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

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

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	Metals, dissolved*	Metals, Total*	PFAS/PFOS**
16741.01	8-19-20	9:29	Field Blank		5								X	X	X	X
.02	8-19-20	9:47	MW-110s	GW	7								X	X	X	X
.03	8-19-20	10:33	MW-108s	GW	4								X	X	X	
.04	8-19-20	10:56	MW-113s	GW	7								X	X	X	X
.05	8-19-20	11:24	MW-109s	GW	7								X	X	X	X
.06	8-19-20	12:00	MW-114s	GW	7								X	X	X	X
.07	8-19-20	—	Dupe #2	GW	7								X	X	X	X
.08	8-19-20	12:57	MW-111s	GW	7								X	X	X	X
.09	8-19-20	13:29	MW-103s	GW	7								X	X	X	X
.10	8-19-20	13:38	Equip Blank		7								X	X	X	X

Special Instructions:
* - Metals list includes: Ar, Cr-total, CR-Hex, Cu, Pb, Se, Zn
** - PFC 28 Compound List, low level

16742.01
.02
.03
.04
.05
.06
.07
.08
.09
.10

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Josh Henderson AE ☑ Sampler	DATE: 8-19	TIME: 2:00	
RECEIVED BY: SIGNATURE/ORGANIZATION: AE	DATE: 8-19	TIME: 2:00	
RELINQUISHED BY: SIGNATURE/ORGANIZATION: AE	DATE: 8/19/20	TIME: 15:50	
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE: 8/19/20	TIME: 15:50	

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Doug A. Mills	DATE: 8/19/20	TIME: 15:51	
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE: 8/19/20	TIME: 1551	
SEAL NO.	SEAL INTACT YES☐ NO☐	INITIALS	NOTES: TEMP. ON ARRIVAL: 2.1
SEAL NO.	SEAL INTACT YES☐ NO☐	INITIALS	

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

Rev. 5.18.12

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 c
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
X	Compound also found in associatec
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 c
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
X	Compound also found in associatec
NC	Insufficient data to develop criterion
GX	Interface Criteria - calculated based on 257ppm total hardness

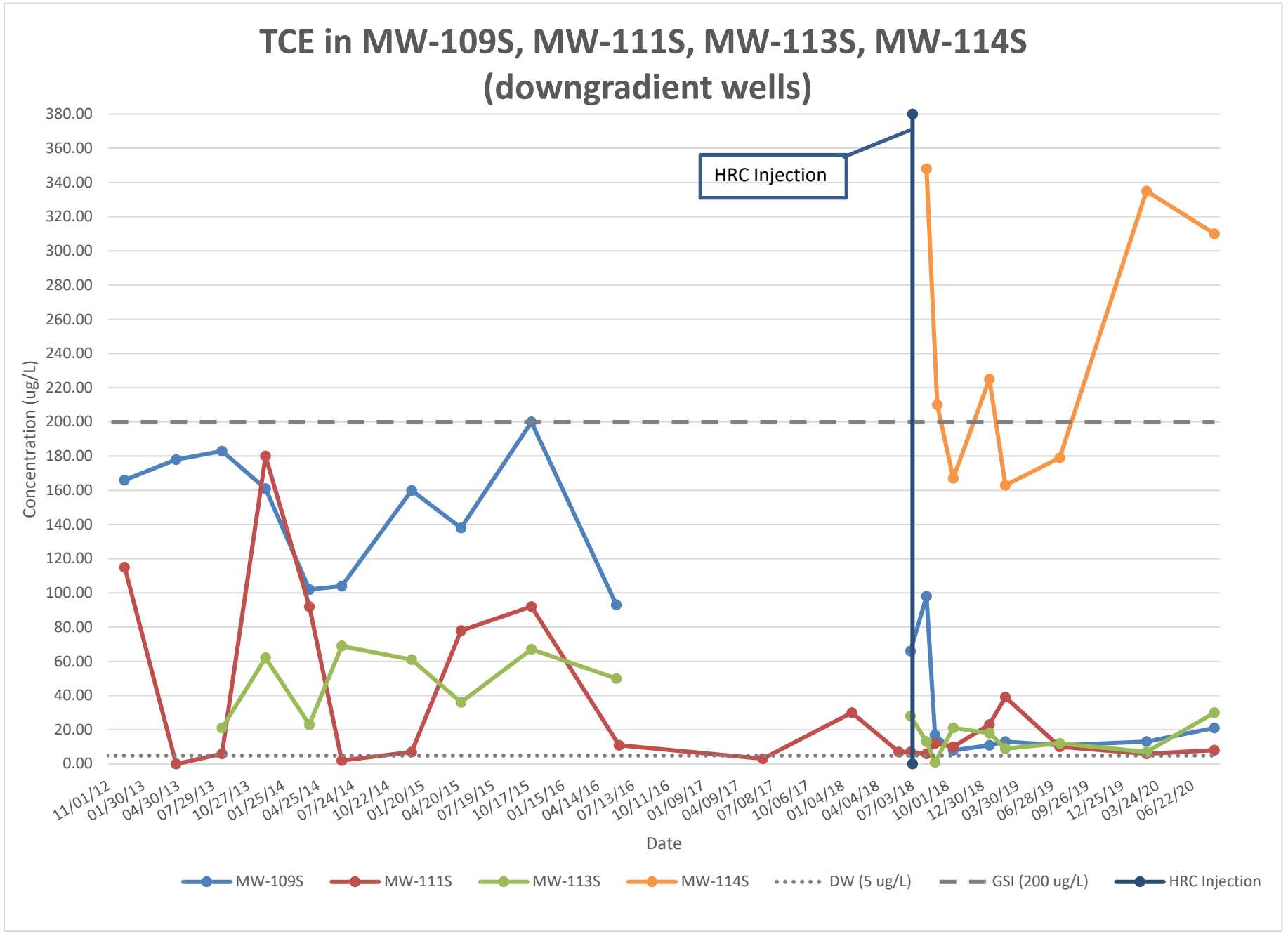
TABLE 2
SOIL ANALYTICAL DATA (Metals and Detected VOCs)
RACER - Flint West #12990

				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 c
X	Exceeds DW criteria
X	Exceeds GSI criteria
X	Exceeds both DW and GSI criteria
X	Compound also found in associatec
NC	Insufficient data to develop criterion
GX	Interface Criteria - calculated based on 257ppm total hardness

APPENDIX C: TCE GRAPH


TCE in MW-109S, MW-111S, MW-113S, MW-114S
(downgradient wells)
HRC Injection
Concentration (ug/L)
380.00
360.00
340.00
320.00
300.00
280.00
260.00
240.00
220.00
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
11/01/12
01/30/13
04/30/13
07/29/13
10/27/13
01/25/14
04/25/14
07/24/14
10/22/14
01/20/15
04/20/15
07/19/15
10/17/15
01/15/16
04/14/16
07/13/16
10/11/16
01/09/17
04/09/17
07/08/17
10/06/17
01/04/18
04/04/18
07/03/18
10/01/18
12/30/18
03/30/19
06/28/19
09/26/19
12/25/19
03/24/20
06/22/20
Date
MW-109S
MW-111S
MW-113S
MW-114S
DW (5 ug/L)
GSI (200 ug/L)
HRC Injection