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

DATA REPORT
AND PROPOSED ADDITIONAL MONITORING

TO: Brandon Pursel, USEPA
Dave Favero, RACER TRUST
Grant Trigger, RACER TRUST

FROM: Mike Smith, Applied EcoSystems, Inc.

DATE: April 11, 2018

SUBJECT: RACER Flint West Industrial Land (#12990)
Summary of Additional Site Investigation

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ATTACHMENTS:

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1.0 INTRODUCTION

Applied EcoSystems, Inc. (Applied EcoSystems) completed a groundwater monitoring event at the RACER Trust Flint West Industrial Land - #12990 Site on January 28, 2018 as outlined in the August 2, 2017 Data Report and a letter dated November 21, 2017 submitted to the United States Environmental Protection Agency (USEPA).

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 majority of 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.

A Pilot Study Work Plan for injection of Hydrogen Release Compound (HRC) was submitted to USEPA and MDEQ. USEPA approved the plan on January 13, 2017 and MDEQ approved the plan on October 13, 2017.

Due to a change in ownership, the abandoned railroad parcel north of the Site is not currently accessible to RACER. RACER is in the process of pursuing an access agreement for this property. Accordingly, the Pilot Study has not been implemented and monitoring wells MW-108S, MW-109S, MW-110S, and MW-113S were not sampled. MW-100S and MW-106SR were dry and were not sampled. Groundwater samples from select wells were intended to be analyzed for 1,4-Dioxane 8270SIM; however; insufficient sample volume was collected. Select wells will be resampled, and data will be provided following analysis. There were no other exceptions to the approved USEPA groundwater monitoring scope of work.

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2.0 MONITORING ACTIVITIES COMPLETED

Groundwater Monitoring (Task 6)

- All wells (except MW-100S, MW-106SR, MW-108S, MW-109S, MW-110S, and MW-113S) were gauged. No NAPL was encountered.
- All wells (except MW-100S, MW-106SR, MW-108S, MW-109S, MW-110S, and MW-113S) were sampled. Samples were analyzed for volatile organic compounds (VOCs), and the following metals (total and dissolved): arsenic, chromium (total and hexavalent), copper, lead, selenium, and zinc. In addition, Perfluorinated chemicals (PFCs), including Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS), and 1,4 Dioxane (8260 SIMS mode) analysis was conducted for groundwater samples collected from the following monitoring wells: MW-101S, MW-102S, MW-111S and MW-112S. Note 8270SIM analyses for 1,4-d are forthcoming. Analytical results are attached. A Soil Boring and Well Location Map is attached as Figure 2. A Groundwater Contour Map, prepared using the October/November 2016 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.

3.0 MONITORING RESULTS

Comparison of groundwater data to current (December 30, 2013) Michigan Department of Environmental Quality (MDEQ) Generic Residential and Non-Residential Cleanup Criteria (GRCC) indicates the following:

Metals: Select metals were detected above drinking water and 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 be naturally-occurring. Although MDEQ 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. The 100 ug/L arsenic result for MW-112S is generally consistent with concentrations from the previous two monitoring events (108 ug/L in October/November 2016 and 82 ug/L in June 2017). Total metals results appear to have been influenced by turbidity. Accordingly, the dissolved metals concentrations are considered to be more representative of site conditions for the purposes of this assessment.

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Table 1.0 – Dissolved Metals Exceedances in Groundwater

Well ID	Metal	Drinking Water Criterion	GSI Criterion	Result
MW-103S	Dissolved Arsenic	**10**	**10**	29
MW-112S	Dissolved Arsenic	**10**	**10**	100
MW-105S	Dissolved Selenium	50	**5**	8

All results are expressed in ug/L

VOCs: Exceedances were present as follows:

Table 2.0 – VOCs Exceedances in Groundwater

Well ID	VOC	Drinking Water Criterion	GSI Criterion	Result
MW-105S	Tetrachloroethane	**5**	60	43
MW-111S	Trichloroethene	**5**	200	30

- All results are expressed in ug/L

Criteria in **red** indicate an exceedance for that pathway.

No 1,4-Dioxane was detected.

Various PFCs, PFOA, and PFOS compounds were detected. The concentrations do not exceed the 70 ng/L combined drinking water criterion for PFOA and PFOS established by MDEQ on January 10, 2018. Detected concentrations of PFOA did not exceed the MDEQ's October 21, 2016 Rule 57 drinking water value of 12,000 ng/L for non-drinking water sources. Detected concentrations of PFOS ranged from 7 to 44 ng/L. The reported concentrations of PFOS in MW-101S, MW-111S and MW-112S exceed MDEQ's October 21, 2016 Rule 57 surface water quality value of 12 ng/L for non-drinking water sources.

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 January, 2018 groundwater monitoring event are included as Attachment 3. Figure 4 illustrates the GSI and drinking water exceedances in groundwater identified in groundwater samples collected from 2012 through 2018.

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The primary constituents of concern are Trichloroethene and Vinyl Chloride. Note that elevated Tetrachloroethene levels have been consistently detected in one up gradient well, MW-105S since April 2012 and Trichloroethene 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.

Figure 5 is a map showing a summary of drinking water and GSI exceedances in soil from 2012 through 2014. Tables, showing all soil analytical results for samples collected on behalf of RACER, are included as Attachment 4.

4.0 PROPOSED ADDITIONAL MONITORING

Monitoring wells MW-101S, MW-102S, MW-111S and MW-112S will be sampled and analyzed for 1,4-Dioxane by EPA Method 8270 SIM in April, 2018.

An additional round of groundwater monitoring is planned for May, 2018. Samples will be collected from all monitoring wells that are accessible and produce adequate quantity for samples. The samples will be analyzed for the same parameters as analyzed for the January, 2018 event, including hexavalent chromium if turbidity levels are low enough. In addition, groundwater samples collected from MW-101S, MW-102S, MW-104S, MW-105S, MW-111S and MW-112S will be analyzed for PFCs including PFOA and PFOS.

All on-site monitoring wells will be redeveloped at least 72 hours prior to the next scheduled groundwater monitoring event in May, 2018.

5.0 PROPOSED SCHEDULE:

Groundwater monitoring is planned for May, 2018.

A schedule for completing the pilot test will be developed upon receipt of access to the adjoining property. Future activities are dependent upon the results of the pilot test.

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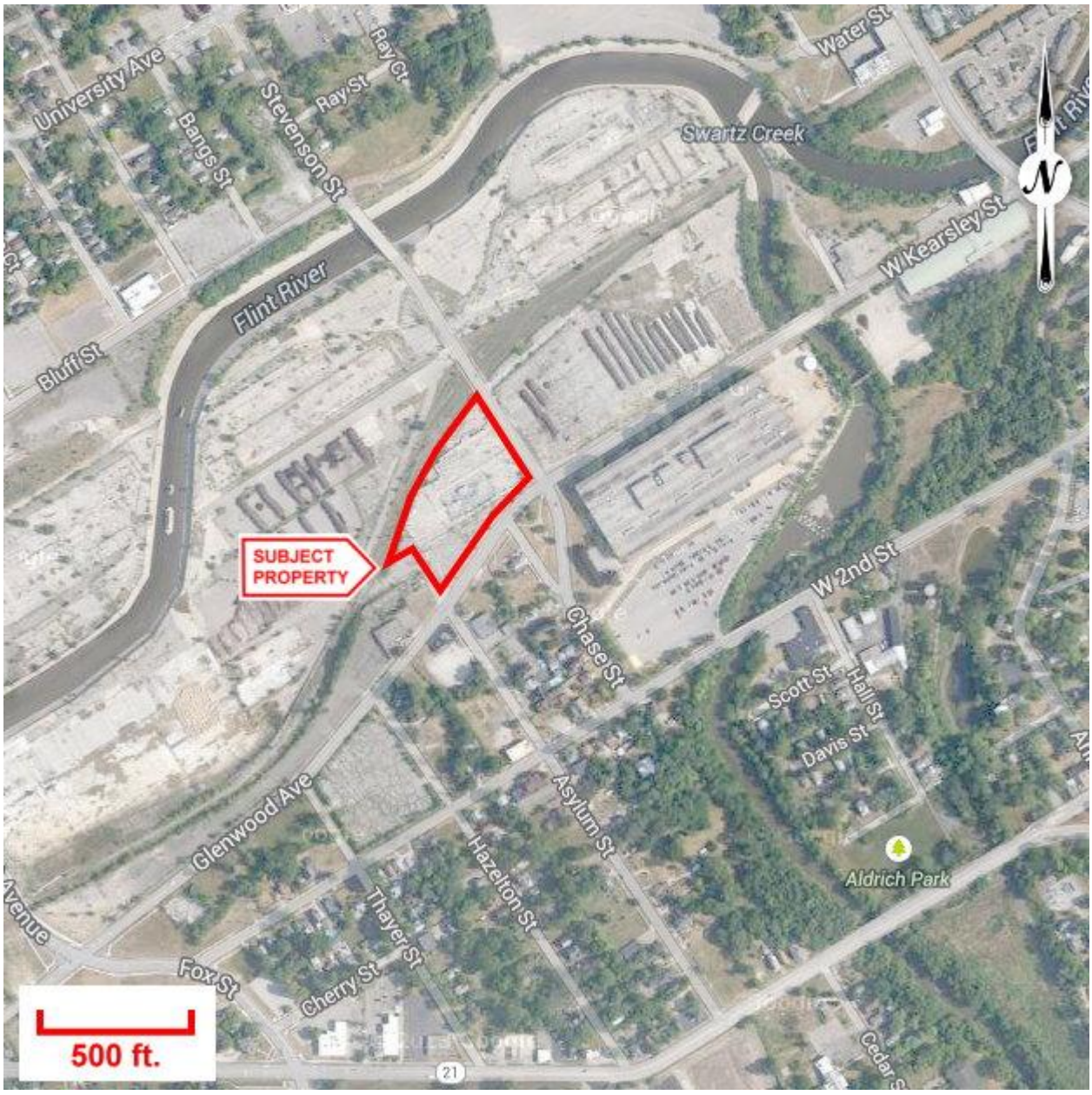
FIGURES

SITE LOCATION MAP

RACER Flint West

FIGURE	DATE	SCALE	PROJECT No.
1	2014	As Shown	11-4317-102



Source: United States Geological Survey	Property outline is approximate.

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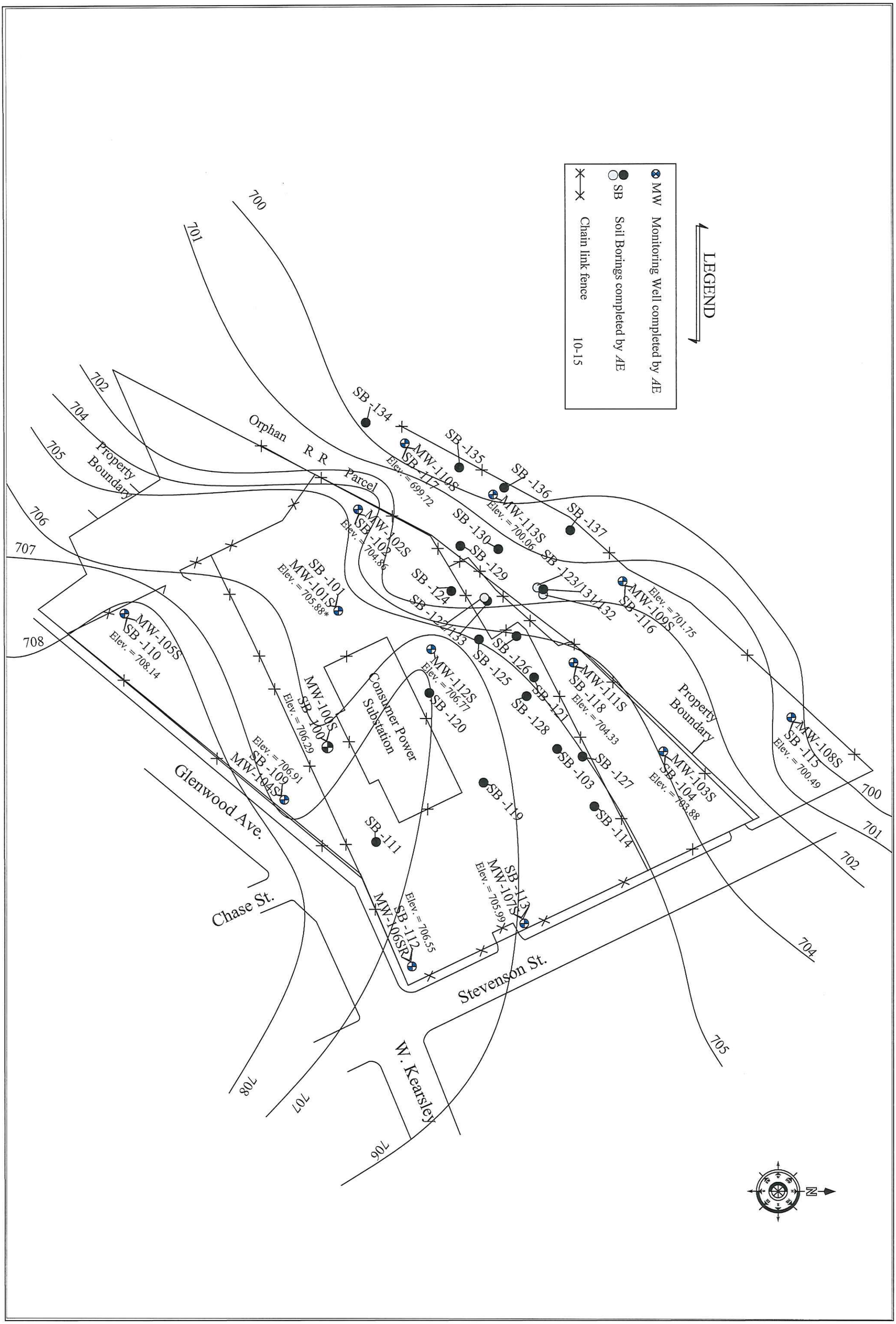
Soil Boring and Well Location Map

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

DATE:	SCALE:
2015	As Shown
PROJECT:	FIGURE:
11-4317-102	2



Applied *Eco*Systems, Inc. Environmental Management, Consulting & Field Services G-4300 South Saginaw Street, Burton, Michigan 48529 Phone: 810.715.2525; Fax: 810.715.2526	***Groundwater Contour Map*** ***October, November 2016*** ***Sampling Event*** Racer Flint West - 12990 Flint West Industrial Land, Flint, MI	**DATE:** 2016	**SCALE:** As Shown
		PROJECT: 11-4317-102	**FIGURE:** 3

Summary of Drinking Water and Groundwater to Surface Water Interface Exceedances in Groundwater 2012 to 2018

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

HORIZONTAL SCALE: 1" = 120'	FIGURE: 4
DATE: March 12, 2018	PROJECT: 11-4317-102

LEGEND

- MW — Monitoring well
- SB — Soil boring
- SB — Multiple soil borings in one location.
- Fence
- GSI — Ground Water to Surface Water Interface.
- DW — Drinking Water Threshold
- GRCC — General Residential Cleanup Criteria

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

MW–109S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Vinyl Chloride	2	13	28,17,13,8,18,10,12,21,20,15,8	2,3,4,5,6,7,8,9,10,11
Copper	1000	20	28,77,26,90	2,5,8,10
Lead	4	44	20,59,32,70	2,5,8,10
Trichloroethene	5	200	166,178,183,161,102,160,138,200,93,119	2,3,4,5,6,8,10,11,12
cis–1,2–Dichloroethane	70	620	105,80	2,10
Arsenic	10	10	45,16,40	5,8,10
Tetrachloroethane	5	60	104	7
Zinc dissolved	2400	260	730	11

SB–125 TWT

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic dissolved	10	10	17	6

SB–125 TWB

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic dissolved	10	10	30	6
Zinc dissolved	2400	260	400	6

MW–111S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic	10	10	13,60	2,10
Vinyl Chloride	2	13	195,99 4,4,97,72	2,5 6,9,10,12
1,1–Dichloroethane	7	130	10,18	2,5
Trichloroethene	5	200	115,6,180 92,7,78,92,11,41,30	2,4,5,6,8 9,10,11,12,14
cis–1,2–Dichloroethane	70	620	160	5
Lead	4	44	20,140,6	8,10,14
Copper	1000	20	22,70	8,10
Chromium	100	160	237,1140	8,10
Selenium	50	5	16	10

MW–108S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic	10	10	13,18.4	5,10
Arsenic dissolved	10	10	15	12
Copper	1000	20	40,31,90	5,8,10
Lead	4	44	55,15,90	5,8,10
Selenium	50	5	6,6,7,6	3,6,7,11
Selenium dissolved	50	5	6,6	7,11
Zinc	2400	260	350	10
Zinc dissolved	2400	260	1220	11

MW–103S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic	10	10	48,55,41,52,24,56,14 0,22,13,29	1,2,3,4,5,7,10,11,13,14
Arsenic dissolved	10	10	23,11,29	5,6,14
Chromium	100	160	120	10
Copper	1000	20	160	10
Lead	4	44	80	10
Zinc	2400	260	410	10
Zinc dissolved	2400	260	1870	11

SB–131 TWT

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper dissolved	1000	20	28	6
Lead dissolved	4	44	16	6
Trichloroethene	5	200	81	6

SB–131 TWB

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper dissolved	1000	20	144	6
Lead dissolved	4	44	14	6
Trichloroethene	5	200	78	6

SB–130 TWT

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper dissolved	1000	20	140	6
Lead dissolved	4	44	208	6
Zinc dissolved	2400	260	326	6

SB–130 TWB

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper dissolved	1000	20	94	6
Lead dissolved	4	44	31	6

MW–113S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Zinc	2400	260	7030,504	5,8
Zinc dissolved	2400	260	502,317	5,11
Chromium	100	160	479,2920 132,170,822 ,220	4,5 6,7,8,10
Chromium dissolved	100	160	128,152	6,7
Trichloroethene	5	200	21,62,69,61, 36,67,50,50	4,5,7,8 9,10,11,12
Lead	4	44	3310,5 289,50	5,7,8,10
Lead dissolved	4	44	5	7
Copper	1000	20	4160,300,80	5,8,10
Arsenic	10	10	40,30	8,10

SB–129 TWT

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper dissolved	1000	20	22	6
Lead dissolved	4	44	23	6
Zinc dissolved	2400	260	323	6
Trichloroethene	5	200	8	6

SB–129 TWB

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper dissolved	1000	20	24	6
Lead dissolved	4	44	11	6
Trichloroethene	5	200	8	6

SB–127 TWT

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic dissolved	10	10	57	6
Lead dissolved	4	44	5	6
Vinyl chloride	2	13	5	6

SB–127 TWB

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic dissolved	10	10	38	6
Lead dissolved	4	44	19	6
Ethylbenzene	74	18	31	6

MW–107S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic	10	10	20,15,68	5,6,10
Copper dissolved	1000	20	110	5
Copper	1000	20	29,70	8,10
Lead	4	44	30,17,6,16,8	5,6,8,10
Selenium	50	5	10	5
Zinc	2400	260	190,97	5,6
Zinc dissolved	2400	260	60	5
Trichloroethene	5	200	6,9	2,3
Chromium	100	160	1510	7

MW–112S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Selenium dissolved	50	5	102	10
Vinyl Chloride	2	13	8/3/6/21,10	4,5,6,7,13
Arsenic	10	10	93,274,169 121,400,235,79,126,129	4,5,6,7,8,10,11,13,14
Arsenic dissolved	10	10	19,19,20,16,18,108,82,100	6,7,8,9,11,12,13, 14
Lead	4	28	11,257,354 100	4,5,8,10
Zinc	2400	260	929,920,450	5,8,10
Copper	1000	20	418,502,200	5,8,10
Copper dissolved	1000	20	300,115	5,10
Chromium	100	160	256,140,150	5,8,10
Trichloroethene	5	200	24,12,10	7,11,13
Vinyl Chloride	2	13	3,4,17, 10	8,9,11,13

MW–106SR

ANALYTE	DW	GSI	Exceedance	Sampling Event
Vinyl Chloride	2	13	99	1
Silver	34	0.2	0.6	3
Arsenic	10	10	99,65,13	5,6,8,10
Copper	1000	20	747,1100,402,2760,28	5,6,8,10,13
Copper dissolved	1000	20	32	12
Lead	4	44	146,64,44,300	5,6,8,10
Lead dissolved	4	44	23	7
Selenium	50	5	8,7	5,6
Zinc	2400	260	657,342,1600	5,6,10
Chromium	100	160	40000,38700 68000,446000,2500	5,6,8,10,13
Chromium dissolved	100	160	128,340	10,12

MW–110S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic	10	10	11,41,20,55,30	4,5,6,8,10
Arsenic dissolved	10	10	21,17	6,8
Copper	1000	20	49,62 278,059,736	2,4 5,6,8
Copper dissolved	1000	20	28,90	6,10
Lead	4	44	16,19,61 28,17,249,20,3	2,4,5 6,7,8
Lead dissolved	4	44	24,15	6,7
Chromium	100	160	101	5
Zinc	2400	260	556	8
Zinc dissolved	2400	260	373	11

MW–100S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Trichloroethene	5	200	11,8	1,4
Selenium	50	5	6	1
Arsenic	10	10	29	8
Copper	1000	20	230	8
Lead	4	44	70	8
Zinc	2400	260	493	8

MW–105S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic	10	10	69,42,70	6,8,10
Selenium	50	5	10,7,7,16,17,11	2,3,4,8,10,14
Selenium dissolved	50	5	10,6,8,14,9,9,9,8	5,6,7,8,9,10,14
Silver	34	0.2	.6	3
Lead	4	44	5,7,20,29,180	4,6,7,8,10
Lead dissolved	4	44	22	7
Trichloroethene	5	200	25,8,69,43	2,4,9,14
Tetrachloroethane	5	60	22,47,26,73 58,34,29	5,6,7,8,10,12,13
Copper	1000	20	118,2070 158,802,820	5,6,7,8,10
Copper dissolved	1000	20	31	12
Chromium	100	160	3480,3490 42600,776,141	5,7,8,13,14
Chromium dissolved	100	160	407	12
Zinc	2400	260	800	10
Zinc dissolved	2400	260	390	12

MW–104S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper	1000	20	333,716,210,33,34	6,8,10,13,14
Chromium	1000	160	27600,503 17800,10000,465,1640,1740	6,7,8,10,11,13,14
Lead	4	44	21,6,29.7	7,8
Lead dissolved	4	44	25	7
Arsenic	10	10	12,13.6	8,10
Selenium	50	5	15,6	10,11

MW–102S

ANALYTE	DW	GSI	Exceedance	Sampling Event
Cadmium	5	4.5	65	1
Selenium	50	5	6,16	1,10
Selenium dissolved	50	5	6	7
Arsenic	10	10	19,12,20	5,8,10
Copper	1000	20	25,22,37.4	5,8,10
Lead	4	44	13,14,20.4	5,8,10

SB–124 TWT

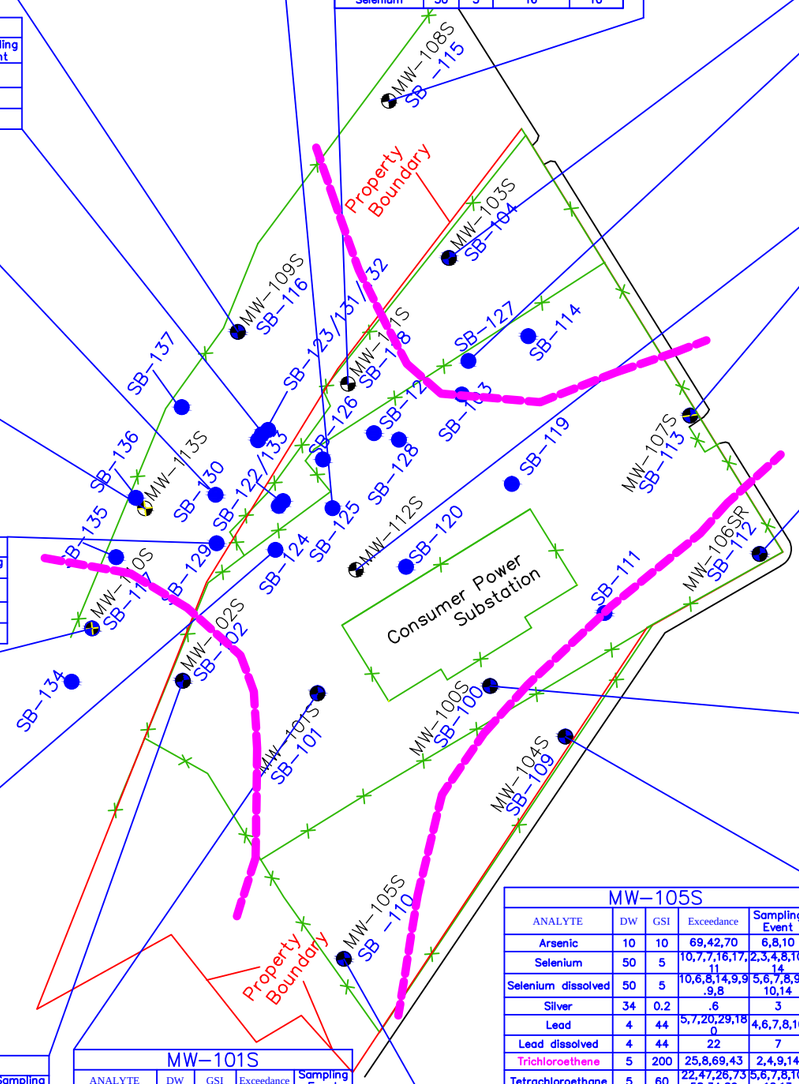
ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper dissolved	1000	20	21	6
Lead dissolved	4	44	29	6
Selenium dissolved	50	5	12	6
Zinc dissolved	2400	260	311	6

SB–124 TWB

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper dissolved	1000	20	42	6
Lead dissolved	4	44	47	6
Selenium dissolved	50	5	12	6

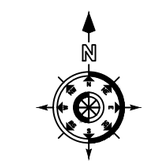
MW–101S

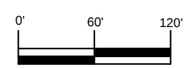
ANALYTE	DW	GSI	Exceedance	Sampling Event
Mercury	2	0.0013	.4	2
Trichloroethene	5	200	7,7	1,4
Selenium	50	5	6,12	1,10
Lead	4	44	9,22,21,7.6	5,6,8,10
Arsenic	10	10	19	6
Copper	1000	20	41,32,59,21	6,8,13,14
Chromium total	100	160	244	14



LEGEND

Trichloroethene – DW GRCC exceedance estimated boundary based on all groundwater sampling events.





APPROXIMATE SCALE IN FEET

Groundwater Sampling Events	
April 2012	1
December 2012	2
April 2013	3
August 2013	4
December 2013	5
April 2014	6
July 2014	7
December 2014	8
May 2015	9
October 2015	10
June 2016	11
Oct./Nov. 2016	12
June 2017	13
January 2018	14

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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'

12/11/2012 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'

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'

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'

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

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'

12/10/2012 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'

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'

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'

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'

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'

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'

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

04/22/14 SB-129				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	6,170	18'

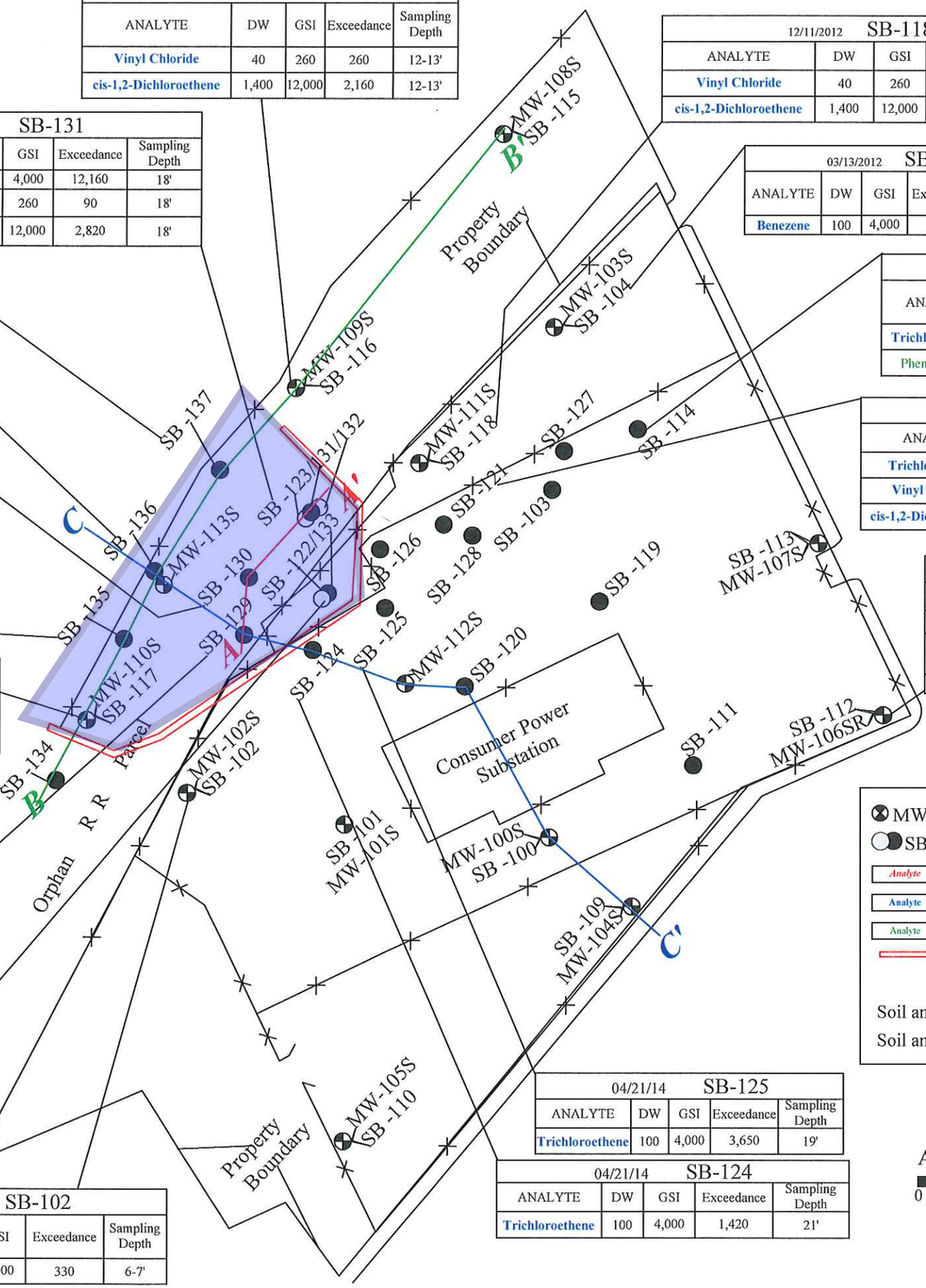
4/30/2013 SB-122				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	14,400	15-16'
cis-1,2-Dichloroethene	1,400	12,000	1,600	15-16'

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

- MW — Monitoring Well completed by *A*E
- SB — Soil Borings completed by *A*E
- *Analyte* — Exceeds GSI and DW criteria
- Analyte — Exceeds DW criteria only
- Analyte — Exceeds GSI criteria only
- Approximate extent of TCE exceedances of GSI protection criteria

Soil analytical results in ug/kg (ppb)

Soil analytical results reflect sampling dates noted

Approximate Scale in Feet

0 ' 30 ' 60 ' 90 ' 120 '

Summary of Drinking Water and GSI Exceedances in Soil 2012 - 2014

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

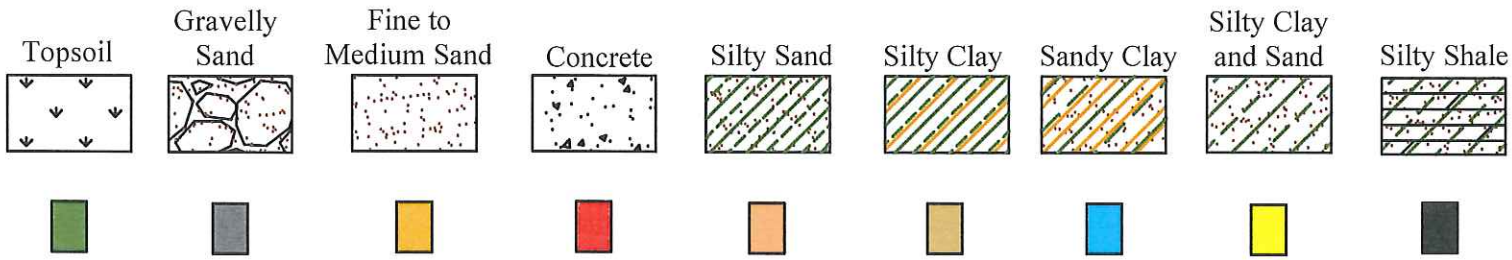
SCALE: As Shown
FIGURE: 5
DATE: 2012 - 2014
PROJECT: 11-4317-102

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

ATTACHMENTS

ATTACHMENT #1: CROSS SECTION DIAGRAMS

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

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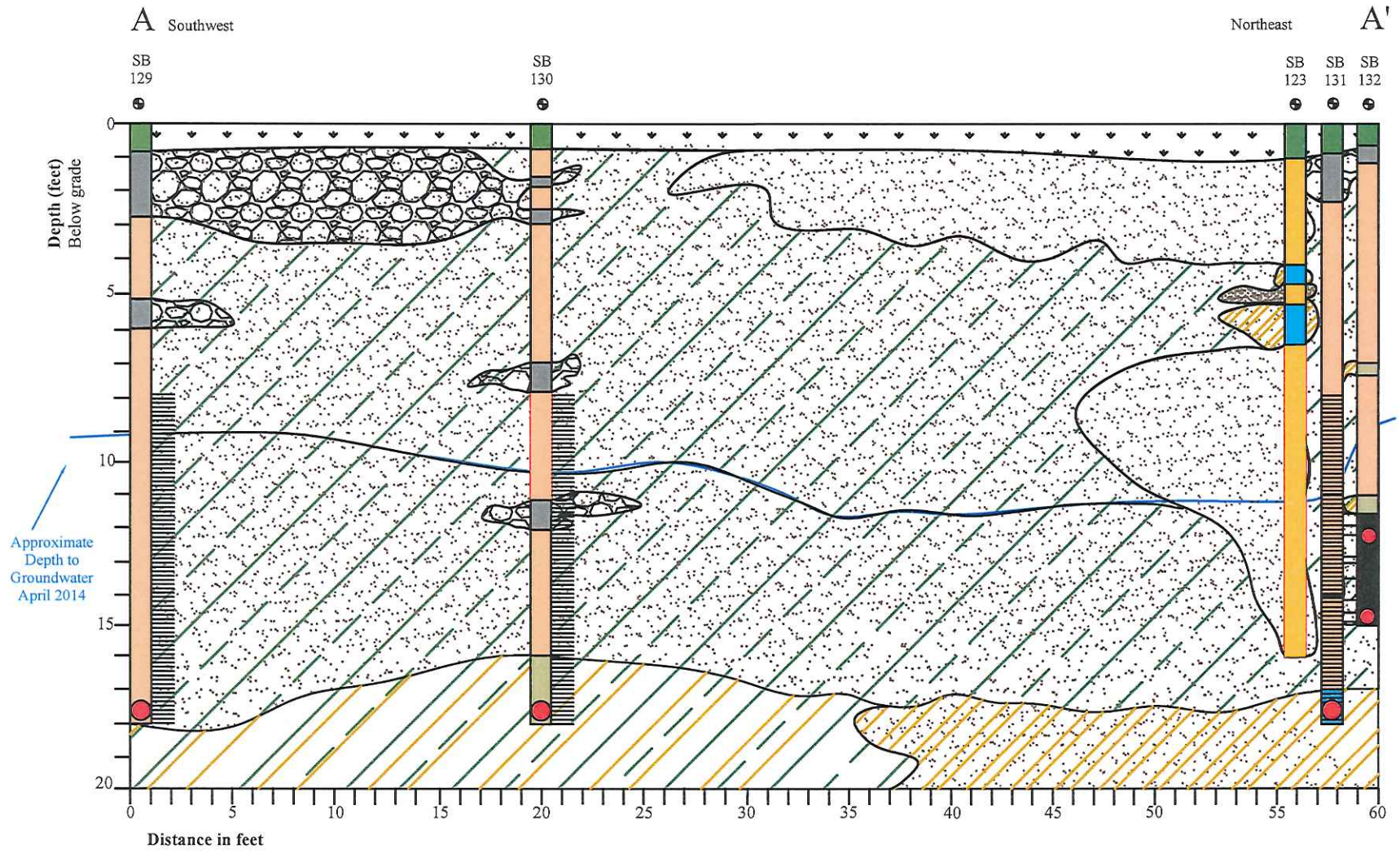

SCALE:	As Noted
Attachment:	1A (1)
DATE:	2016
PROJECT:	11-4317-102

Cross Section Diagram A - A'
TCE Exceedances in Soil

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

Applied EcoSystems, Inc.
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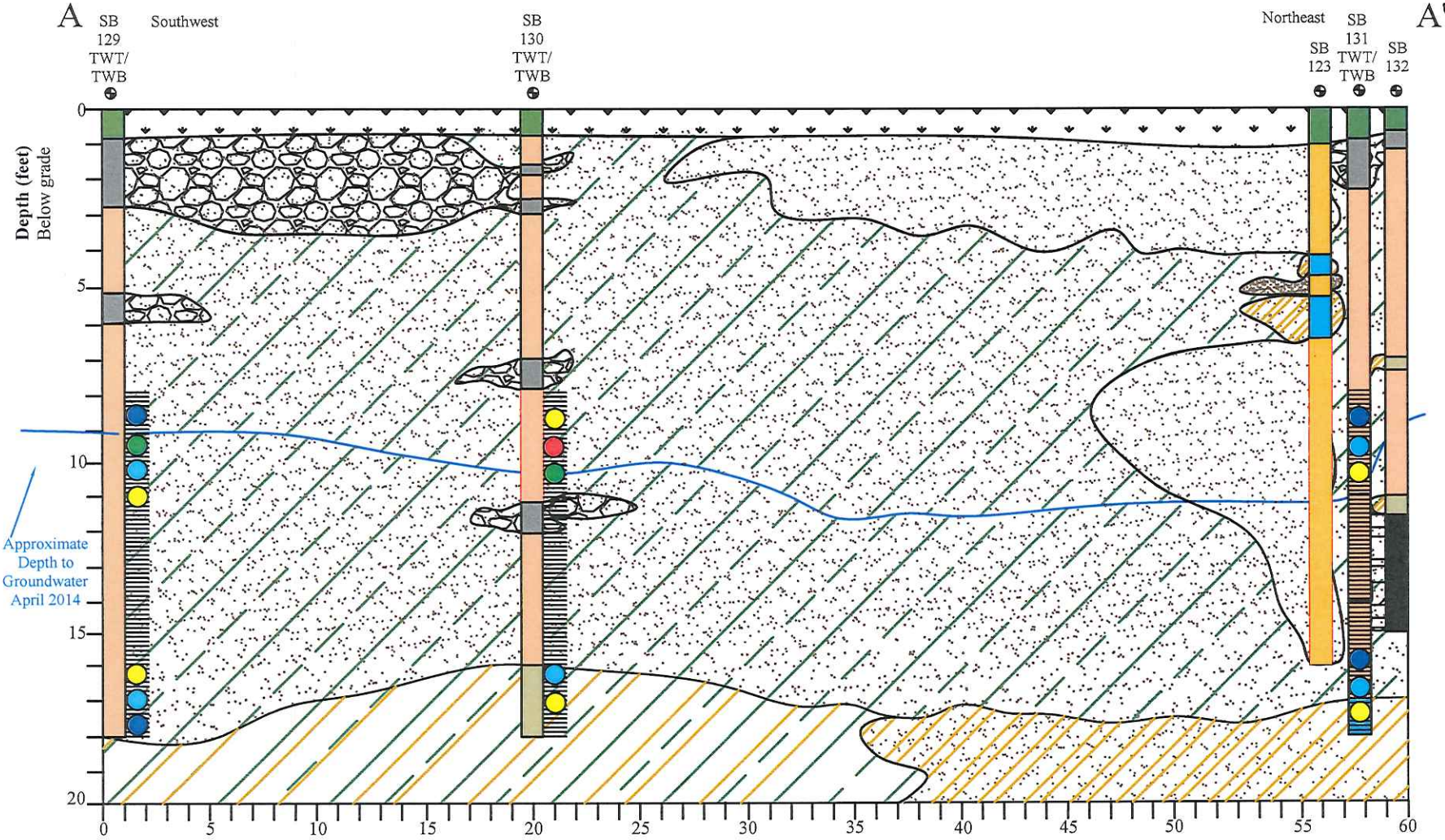
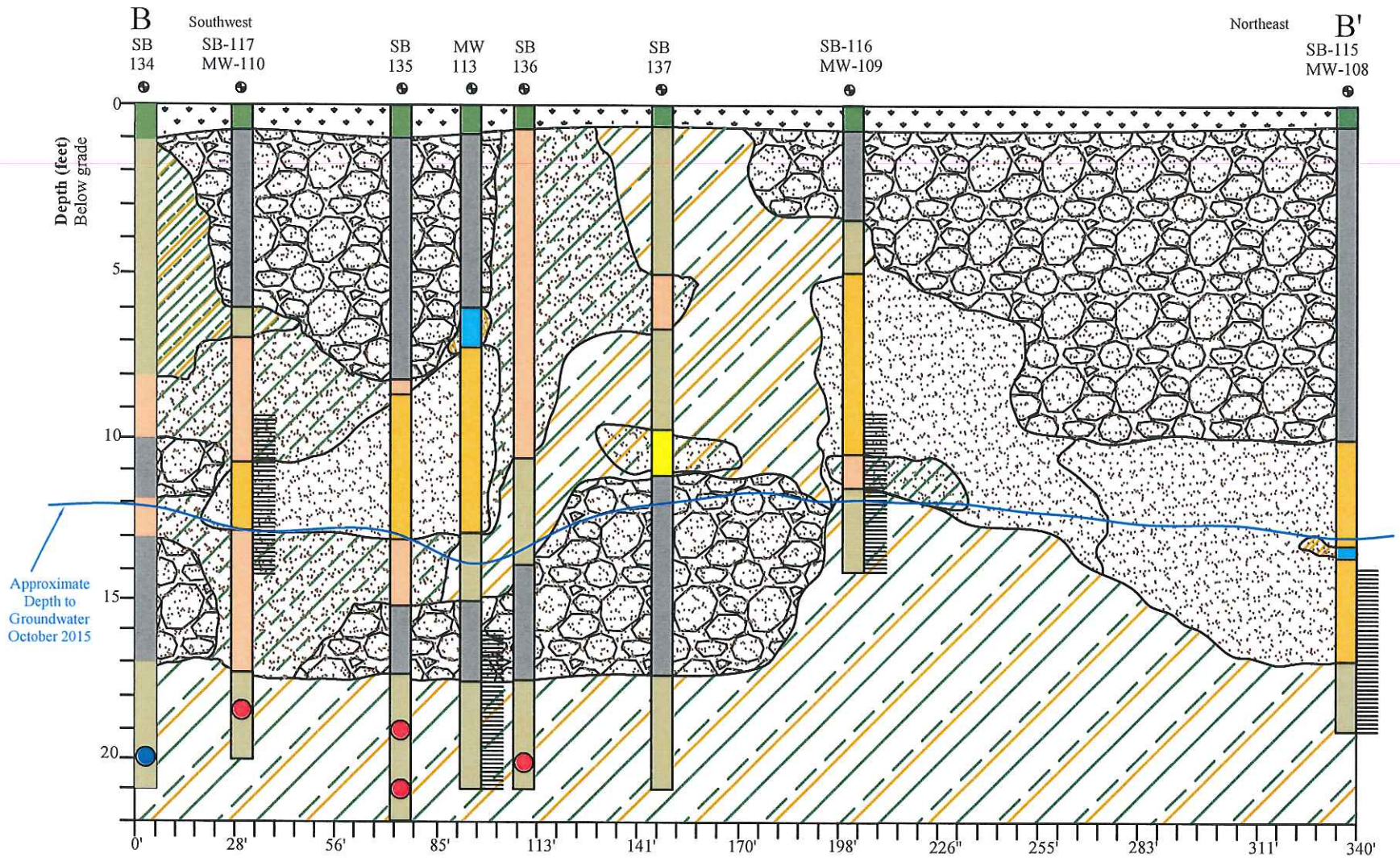


Cross Section Diagram A - A'
Dissolved Metals and TCE Exceedances in Groundwater
Racer Flint West - 12990
Flint West Industrial Land, Flint, MI

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



Cross Section Diagram B - B'
TCE Exceedances in Soil

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

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

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Environmental Management, Consulting & Field Services
G-4300 South Saginaw Street, Burton, Michigan 48529
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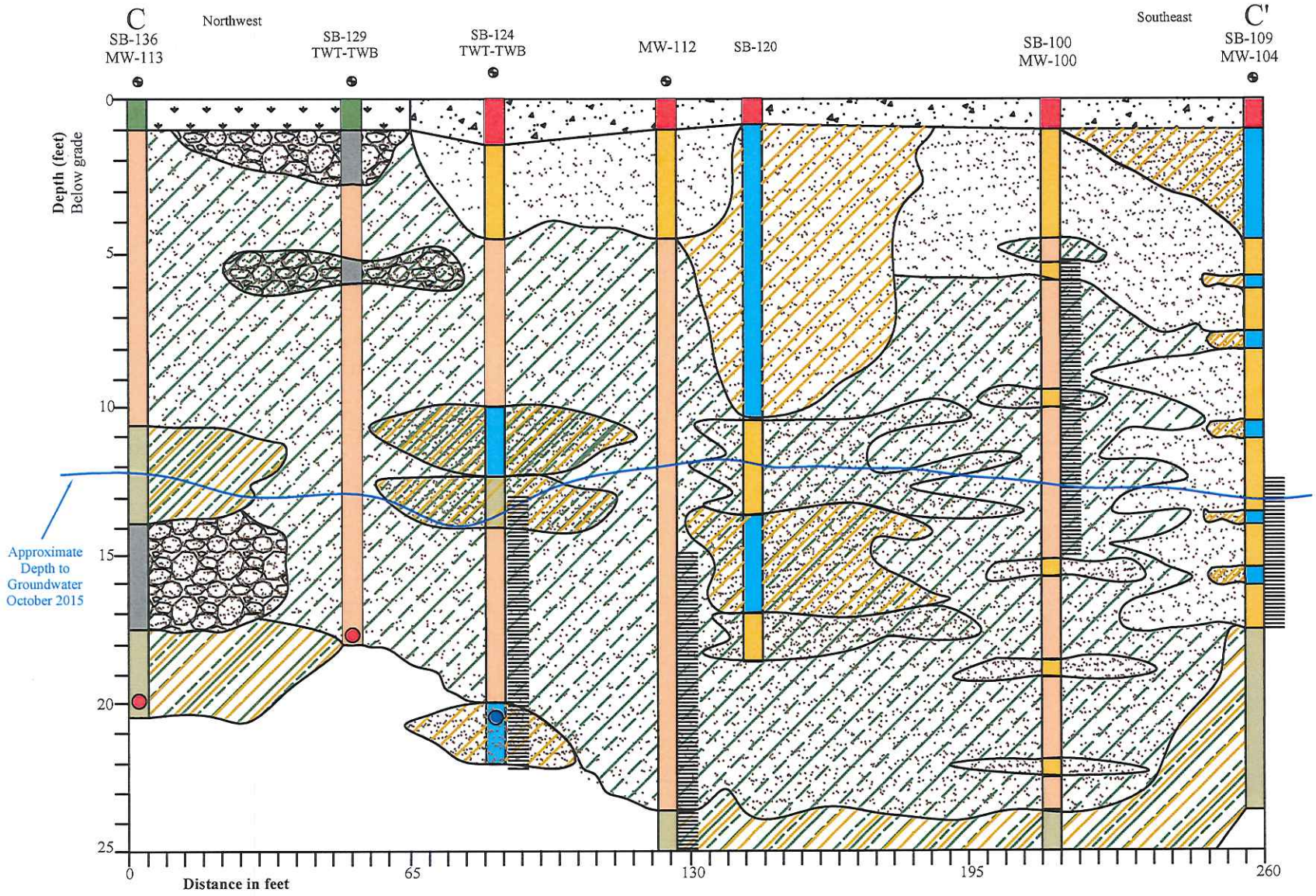
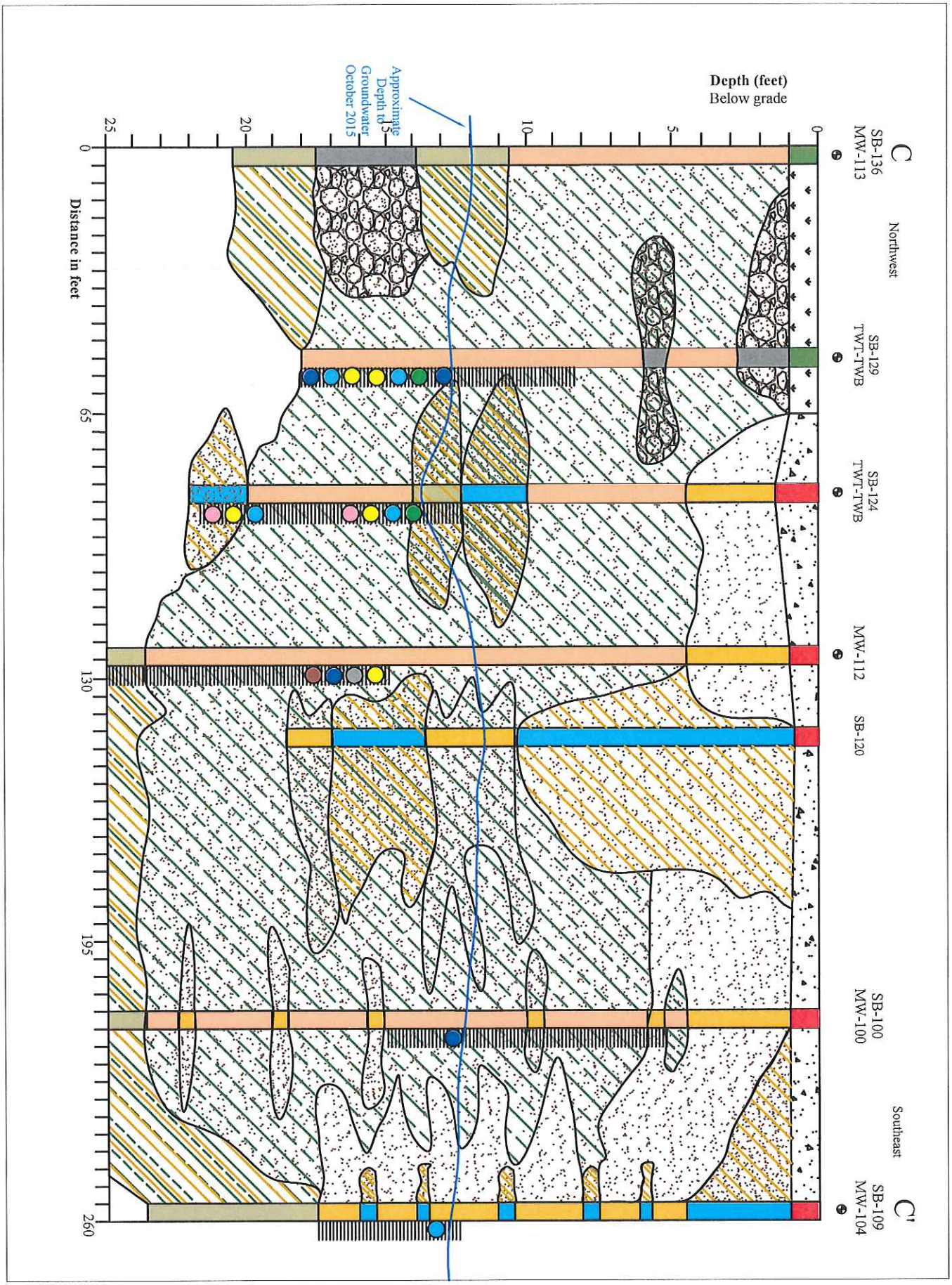


Cross Section Diagram C - C'
TCE Exceedances in Soil

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

ATTACHMENT #2: GROUNDWATER ANALYTICAL TABLES

GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	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				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)	10.00	10.00					11.00			4.00				21.00		19.00			17.00	57.00	4.00	3.00	2.00	3.00	30.00	38.00						
Chromium (dissolved)	100.00	160.00	G			35.00		22.00	18.00					7.00	12.00		128.00	13.00			147.00	64.00	25.00	16.00		17.00	89.00	19.00	33.00	14.00		
Copper (dissolved)	1,000.00	20.00	G											28.00				21.00		5.00	22.00	140.00	28.00	42.00		12.00	24.00	94.00	144.00			
Lead (dissolved)	4.00	28.00	G											24.00				29.00		5.00	23.00	208.00	16.00	47.00	1.00	19.00	11.00	31.00	14.00			
Selenium (dissolved)	50.00	5.00							6.00	5.00		5.00						12.00				4.00		12.00				5.00	3.00			
Zinc (dissolved)	2,400.00	26.00	G		97.00		23.00	5.00		62.00	5.00	16.00	18.00	81.00	21.00	9.00	24.00	311.00	167.00	82.00	323.00	326.00	103.00	241.00	400.00	166.00	68.00	241.00	191.00	12.00		

	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 residential and non-residential 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

GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	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																		
Arsenic (dissolved)	10.00	10.00														19				
Chromium (dissolved)	100.00	160.00	G			51											152			
Copper (dissolved)	1,000.00	20.00	G														4			
Lead (dissolved)	4.00	28.00	G					25	22	23				15			5			
Selenium (dissolved)	50.00	5.00				66			8			6								
Zinc (dissolved)	2,400.00	26.00	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 (M	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 residential and non-residential 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

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)	10.00	10.00		na										17		20			
Arsenic	10.00	10.00		29	4	12	na	12	42	13	2	5	16	55	9	400	40	11.00	5.00
Cadmium (dissolved)	5.00	4.50	GX	na		na	na	na	na	na	na	na	na	na	na	na	na	na	na
Cadmium	5.00	4.50	GX	6.90		na	na	na	na	na	na	na	na	na	na	na	na	na	na
Chromium (dissolved)	100.00	1,600.00	G	na	na	7	na	9	6	15				7	7			10	
Chromium	100.00	1,600.00	GX	na	na	62	na	17,800	42,600	68,000	14	19	16	69	237	140	822	14,000	11
Copper (dissolved)	1,000.00	20.00	G	na			na												
Copper	1,000.00	20.00	GX	230	32	22	na	716	802	402	29	31	26	736	22	502	300	583	21
Lead (dissolved)	4.00	44.00	G	na			na												
Lead	4.00	44.00	GX	70	21	14	na	6	29	44	6	15	32	249	20	354	289	5	23
Selenium (dissolved)	50.00	5.00		na			na		14	5									
Selenium	50.00	5.00					na		16	5								6	
Zinc (dissolved)	2,400.00	260.00	G	na	66		na	28		15	9	13	11	25	34	9	23	36	43
Zinc	2,400.00	260.00	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

GROUNDWATER ANALYTICAL DATA
RACER - Flint West #12990

	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			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 (mg/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		

	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			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					
2-Hexanone	1000	1E+09														3				
Benzene	5.0	200			0.26		0.23												0.25	
Trichloroethene	5.0	200			2	0.51					2		138		78	0.62	36			
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 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

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	1E+09		DRY												1.09			
2-Hexanone	1000	1E+09		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

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
NS	No Sample
1	Filtered in lab
2	Filtered and preserved in lab
NA	Not analyzed due to turbidity

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			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		8	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																							
Chloromethane	260	NC																							
Vinyl Chloride	2.0	13										8		72	2				2						
Chloroethane	430	1,100													3				3						
trichlorofluoromethane	2,600	NA																							
1,1-Dichloroethene	7.0	130										3		4											
Methylene Chloride	5.0	1,500																							
trans-1,2-Dichloroethene	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-pentanone (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-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																							

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	Groundwater 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.

GROUNDWATER ANALYTICAL DATA

RACER - Flint West #12990

As Erroneously 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			5/11/16	5/11/16	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			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
NS	No Sample	No Sample
1	Filtered in lab	Filtered in lab
2	Filtered and preserved in lab	Filtered and preserved in lab
NA	Not analyzed due to turbidity	Not analyzed due to turbidity

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	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	1740	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																				
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																				

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
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																				
PFA ANALYTE (ng/L)	DW	GSI																				
Perfluorobutanesulfonic acid (PFBS)	NC	NC															8.1		5.3			
Perfluorobutanoic acid (PFBA)	NC	NC			3.10	4.80										4.8	180		180			
Perfluorodecanesulfonic acid (PFDS)	NC	NC																				
Perfluorodecanoic acid (PFDA)	NC	NC																				
Perfluorododecanoic acid (PFDoA)	NC	NC																				
Perfluoroheptanesulfonic Acid (PFHpS)	NC	NC																				
Perfluoroheptanoic acid (PFHpA)	NC	NC																				
Perfluorohexanesulfonic acid (PFHxS)	NC	NC														1.9						
Perfluorohexanoic acid (PFHxA)	NC	NC				2.50										2.6						
Perfluorononanoic acid (PFNA)	NC	NC																				
Perfluorooctane Sulfonamide (FOSA)	NC	NC																				
Perfluorooctanesulfonic acid (PFOS)	NC	NC			35.00	7.00										44	16		16			
Perfluorooctanoic acid (PFOA)	NC	NC			4.40	4.10										6.1	4.2		4			
Perfluoropentanoic acid (PFPeA)	NC	NC				2.30																
Perfluorotetradecanoic acid (PFTeA)	NC	NC																				
Perfluorotridecanoic Acid (PFTriA)	NC	NC																				
Perfluoroundecanoic acid (PFUnA)	NC	NC																				

70 combined total

70 combined total

12

14,000 ?

NOTES:

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
No Sample	NS
Filtered in lab	1
Filtered and preserved in lab	2
Not analyzed due to turbidity	NA

ATTACHMENT #3: GROUNDWATER ANALYTICAL LABORATORY REPORT

Analytical Laboratory Report

Report ID: S87124.01(01)
Generated on 02/05/2018

Report to

Attention: Mike Smith
Applied Ecosystems
G4300 S. Saginaw St.
Burton, MI 48529

Phone: 810-715-2525 FAX: 810-715-2526
Email: ae_mds@yahoo.com

Addtional Contacts: Steve Duvernois

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): S87124.01-S87124.12
Project: Racer / Flint
Collected Date: 01/28/2018
Submitted Date/Time: 01/29/2018 10:15
Sampled by: Steve Duvernois
P.O. #: PO

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

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 20th Edition
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260B	
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs

Sample Summary (12 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S87124.01	MW - 105S	Liquid	01/28/18 15:30
S87124.02	MW - 104S	Liquid	01/28/18 15:30
S87124.03	MW - 107S	Liquid	01/28/18 15:30
S87124.04	MW - 112S	Liquid	01/28/18 15:30
S87124.05	MW - 101S	Liquid	01/28/18 15:30
S87124.06	MW - 102S	Liquid	01/28/18 15:30
S87124.07	MW - 111S	Liquid	01/28/18 15:30
S87124.08	MW - 103S	Liquid	01/28/18 15:30
S87124.09	Field Dupe	Liquid	01/28/18 15:30
S87124.10	Trip Blank	Liquid	01/28/18 15:30
S87124.11	Equipment Blank	Liquid	01/28/18 15:30
S87124.12	Field Blank	Liquid	01/28/18 15:30

Analytical Laboratory Report

Lab Sample ID: S87124.01
Sample Tag: MW - 105S
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 12:30	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 11:25	JKB	0.003	
Metals								
Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	02/01/18 16:16	CCM	0.000385	
Arsenic	Not detected	mg/L	0.002	E200.8	02/01/18 16:15	CCM	0.000385	
Chromium, Dissolved	0.013	mg/L	0.005	E200.8	02/01/18 16:16	CCM	0.000150	
Chromium	0.141	mg/L	0.005	E200.8	02/01/18 16:15	CCM	0.000150	
Copper, Dissolved	0.001182	mg/L	0.005	E200.8	02/01/18 16:16	CCM	0.000290	b
Copper	0.003337	mg/L	0.005	E200.8	02/01/18 16:15	CCM	0.000290	b
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	02/01/18 16:16	CCM	0.0000550	
Lead	Not detected	mg/L	0.003	E200.8	02/01/18 16:15	CCM	0.0000550	
Selenium, Dissolved	0.008	mg/L	0.005	E200.8	02/02/18 11:38	JRH	0.000480	
Selenium	0.011	mg/L	0.005	E200.8	02/02/18 11:35	JRH	0.000480	
Zinc, Dissolved	0.00200	mg/L	0.005	E200.8	02/01/18 16:16	CCM	0.00138	b
Zinc	0.00231	mg/L	0.005	E200.8	02/01/18 16:15	CCM	0.00138	b
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/29/18 15:28	JGH	0.27	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 15:28	JGH	4.0	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 15:28	JGH	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/29/18 15:28	JGH	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.20	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.24	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.18	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.21	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.28	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.27	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.16	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.14	

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

Lab Sample ID: S87124.01 (continued)

Sample Tag: MW - 105S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.15	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/29/18 15:28	JGH	1.2	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.15	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.27	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 15:28	JGH	0.35	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 15:28	JGH	0.19	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.19	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.11	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.17	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.29	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.18	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.19	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.34	
Tetrachloroethene*	43	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.13	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.26	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 15:28	JGH	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.19	
1,3-Dichlorobenzene*	0.23	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.20	J
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:28	JGH	0.17	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.35	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.48	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.24	

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

Lab Sample ID: S87124.01 (continued)

Sample Tag: MW - 105S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:28	JGH	0.21	

Analytical Laboratory Report

Lab Sample ID: S87124.02
Sample Tag: MW - 104S
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 12:35	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 11:35	JKB	0.003	
Metals								
Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	02/01/18 16:18	CCM	0.000385	
Arsenic	Not detected	mg/L	0.002	E200.8	02/01/18 16:17	CCM	0.000385	
Chromium, Dissolved	0.086	mg/L	0.005	E200.8	02/01/18 16:18	CCM	0.000150	
Chromium	1.74	mg/L	0.005	E200.8	02/01/18 16:17	CCM	0.000150	
Copper, Dissolved	0.005	mg/L	0.005	E200.8	02/01/18 16:18	CCM	0.000290	
Copper	0.034	mg/L	0.005	E200.8	02/01/18 16:17	CCM	0.000290	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	02/01/18 16:18	CCM	0.0000550	
Lead	0.000739	mg/L	0.003	E200.8	02/01/18 16:17	CCM	0.0000550	b
Selenium, Dissolved	0.002	mg/L	0.005	E200.8	02/02/18 13:14	JRH	0.000480	b
Selenium	0.002	mg/L	0.005	E200.8	02/02/18 13:07	JRH	0.000480	b
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	02/01/18 16:18	CCM	0.00138	
Zinc	0.014	mg/L	0.005	E200.8	02/01/18 16:17	CCM	0.00138	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/29/18 15:48	JGH	0.27	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 15:48	JGH	4.0	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 15:48	JGH	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/29/18 15:48	JGH	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.20	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.24	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.18	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.21	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.28	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.27	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.16	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.14	

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

Lab Sample ID: S87124.02 (continued)

Sample Tag: MW - 104S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.15	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/29/18 15:48	JGH	1.2	
Chloroform*	2	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.15	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.27	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 15:48	JGH	0.35	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 15:48	JGH	0.19	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.19	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.11	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.17	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.29	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.18	
Bromodichloromethane*	0.68	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.19	J
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.34	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.13	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.26	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 15:48	JGH	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.19	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.20	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:48	JGH	0.17	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.35	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.48	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.24	

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

Lab Sample ID: S87124.02 (continued)

Sample Tag: MW - 104S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:48	JGH	0.21	

Analytical Laboratory Report

Lab Sample ID: S87124.03
Sample Tag: MW - 107S
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 12:40	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 11:45	JKB	0.003	
Metals								
Arsenic, Dissolved	0.000548	mg/L	0.002	E200.8	02/01/18 16:20	CCM	0.000385	b
Arsenic	Not detected	mg/L	0.002	E200.8	02/01/18 16:19	CCM	0.000385	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	02/01/18 16:20	CCM	0.000150	
Chromium	Not detected	mg/L	0.005	E200.8	02/01/18 16:19	CCM	0.000150	
Copper, Dissolved	0.001134	mg/L	0.005	E200.8	02/01/18 16:20	CCM	0.000290	b
Copper	0.001057	mg/L	0.005	E200.8	02/01/18 16:19	CCM	0.000290	b
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	02/01/18 16:20	CCM	0.0000550	
Lead	Not detected	mg/L	0.003	E200.8	02/01/18 16:19	CCM	0.0000550	
Selenium, Dissolved	0.001	mg/L	0.005	E200.8	02/02/18 12:00	JRH	0.000480	b
Selenium	0.001	mg/L	0.005	E200.8	02/02/18 11:57	JRH	0.000480	b
Zinc, Dissolved	0.00224	mg/L	0.005	E200.8	02/01/18 16:20	CCM	0.00138	b
Zinc	0.00155	mg/L	0.005	E200.8	02/01/18 16:19	CCM	0.00138	b
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/29/18 16:09	JGH	0.27	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 16:09	JGH	4.0	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 16:09	JGH	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/29/18 16:09	JGH	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.20	
Vinyl chloride*	0.77	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.24	J
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.18	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.21	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.28	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.27	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.16	

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

Lab Sample ID: S87124.03 (continued)

Sample Tag: MW - 107S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.14	
1,1-Dichloroethane*	0.97	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.15	J
cis-1,2-Dichloroethene*	2	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/29/18 16:09	JGH	1.2	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.15	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.27	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 16:09	JGH	0.35	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 16:09	JGH	0.19	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.19	
Benzene*	0.18	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.11	J
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.17	
Trichloroethene*	5	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.29	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.18	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.19	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.34	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.13	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.26	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 16:09	JGH	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.19	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.20	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:09	JGH	0.17	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.35	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.48	

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

Lab Sample ID: S87124.03 (continued)

Sample Tag: MW - 107S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.24	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:09	JGH	0.21	

Analytical Laboratory Report

Lab Sample ID: S87124.04
Sample Tag: MW - 112S
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 12:45	JKB	0.003	
Chromium VI	Not detected	mg/L	0.02	SM3500-Cr B	01/29/18 11:55	JKB	0.008	
Metals								
Arsenic, Dissolved	0.100	mg/L	0.002	E200.8	02/01/18 16:22	CCM	0.000385	
Arsenic	0.129	mg/L	0.002	E200.8	02/01/18 16:21	CCM	0.000385	
Chromium, Dissolved	0.001217	mg/L	0.005	E200.8	02/01/18 16:22	CCM	0.000150	b
Chromium	0.001540	mg/L	0.005	E200.8	02/01/18 16:21	CCM	0.000150	b
Copper, Dissolved	0.000547	mg/L	0.005	E200.8	02/01/18 16:22	CCM	0.000290	b
Copper	0.001333	mg/L	0.005	E200.8	02/01/18 16:21	CCM	0.000290	b
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	02/01/18 16:22	CCM	0.0000550	
Lead	Not detected	mg/L	0.003	E200.8	02/01/18 16:21	CCM	0.0000550	
Selenium, Dissolved	0.001	mg/L	0.005	E200.8	02/02/18 12:04	JRH	0.000480	b
Selenium	Not detected	mg/L	0.005	E200.8	02/02/18 12:02	JRH	0.000480	
Zinc, Dissolved	0.00248	mg/L	0.005	E200.8	02/01/18 16:22	CCM	0.00138	b
Zinc	0.006	mg/L	0.005	E200.8	02/01/18 16:21	CCM	0.00138	
Organics - Volatiles								
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	02/01/18 15:59	JGH	0.71	
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/29/18 16:31	JGH	0.27	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 16:31	JGH	4.0	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 16:31	JGH	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/29/18 16:31	JGH	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.20	
Vinyl chloride*	2	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.24	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.18	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.21	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.28	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.27	

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

Lab Sample ID: S87124.04 (continued)

Sample Tag: MW - 112S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.16	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.14	
1,1-Dichloroethane*	0.70	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.15	J
cis-1,2-Dichloroethene*	3	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/29/18 16:31	JGH	1.2	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.15	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.27	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 16:31	JGH	0.35	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 16:31	JGH	0.19	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.19	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.11	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.17	
Trichloroethene*	2	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.29	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.18	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.19	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.34	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.13	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.26	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 16:31	JGH	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.19	
1,3-Dichlorobenzene*	0.30	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.20	J
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 16:31	JGH	0.17	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.35	

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

Lab Sample ID: S87124.04 (continued)

Sample Tag: MW - 112S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.48	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.24	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 16:31	JGH	0.21	

Analytical Laboratory Report

Lab Sample ID: S87124.05
Sample Tag: MW - 101S
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 12:50	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 12:00	JKB	0.003	
Metals								
Arsenic, Dissolved	0.002	mg/L	0.002	E200.8	02/01/18 16:24	CCM	0.000385	
Arsenic	0.003	mg/L	0.002	E200.8	02/01/18 16:23	CCM	0.000385	
Chromium, Dissolved	0.041	mg/L	0.005	E200.8	02/01/18 16:24	CCM	0.000150	
Chromium	0.244	mg/L	0.005	E200.8	02/01/18 16:23	CCM	0.000150	
Copper, Dissolved	0.005	mg/L	0.005	E200.8	02/01/18 16:24	CCM	0.000290	
Copper	0.021	mg/L	0.005	E200.8	02/01/18 16:23	CCM	0.000290	
Lead, Dissolved	0.001836	mg/L	0.003	E200.8	02/01/18 16:24	CCM	0.0000550	b
Lead	0.004	mg/L	0.003	E200.8	02/01/18 16:23	CCM	0.0000550	
Selenium, Dissolved	0.002	mg/L	0.005	E200.8	02/02/18 12:09	JRH	0.000480	b
Selenium	0.002	mg/L	0.005	E200.8	02/02/18 12:07	JRH	0.000480	b
Zinc, Dissolved	0.008	mg/L	0.005	E200.8	02/01/18 16:24	CCM	0.00138	
Zinc	0.018	mg/L	0.005	E200.8	02/01/18 16:23	CCM	0.00138	
Organics - Volatiles								
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	02/01/18 16:20	JGH	0.71	
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/30/18 14:52	JML	0.27	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	01/30/18 14:52	JML	4.0	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/30/18 14:52	JML	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/30/18 14:52	JML	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.20	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.24	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.18	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.21	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.28	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.27	

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

Lab Sample ID: S87124.05 (continued)

Sample Tag: MW - 101S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.16	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.14	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.15	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/30/18 14:52	JML	1.2	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.15	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.27	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	01/30/18 14:52	JML	0.35	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	01/30/18 14:52	JML	0.19	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.19	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.11	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.17	
Trichloroethene*	3	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.29	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.18	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.19	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.34	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.13	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.26	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/30/18 14:52	JML	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.19	
1,3-Dichlorobenzene*	0.36	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.20	J
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/30/18 14:52	JML	0.17	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.35	

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

Lab Sample ID: S87124.05 (continued)

Sample Tag: MW - 101S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.48	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.24	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/30/18 14:52	JML	0.21	

Analytical Laboratory Report

Lab Sample ID: S87124.06
Sample Tag: MW - 102S
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 12:55	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 12:05	JKB	0.003	
Metals								
Arsenic, Dissolved	0.001094	mg/L	0.002	E200.8	02/01/18 16:32	CCM	0.000385	b
Arsenic	0.003	mg/L	0.002	E200.8	02/01/18 16:31	CCM	0.000385	
Chromium, Dissolved	0.009	mg/L	0.005	E200.8	02/01/18 16:32	CCM	0.000150	
Chromium	0.028	mg/L	0.005	E200.8	02/01/18 16:31	CCM	0.000150	
Copper, Dissolved	0.002446	mg/L	0.005	E200.8	02/01/18 16:32	CCM	0.000290	b
Copper	0.004359	mg/L	0.005	E200.8	02/01/18 16:31	CCM	0.000290	b
Lead, Dissolved	0.001058	mg/L	0.003	E200.8	02/01/18 16:32	CCM	0.0000550	b
Lead	0.003	mg/L	0.003	E200.8	02/01/18 16:31	CCM	0.0000550	
Selenium, Dissolved	0.004	mg/L	0.005	E200.8	02/02/18 12:25	JRH	0.000480	b
Selenium	0.004	mg/L	0.005	E200.8	02/02/18 12:23	JRH	0.000480	b
Zinc, Dissolved	0.005	mg/L	0.005	E200.8	02/01/18 16:32	CCM	0.00138	
Zinc	0.011	mg/L	0.005	E200.8	02/01/18 16:31	CCM	0.00138	
Organics - Volatiles								
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	02/01/18 16:41	JGH	0.71	
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/29/18 17:13	JGH	0.27	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 17:13	JGH	4.0	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 17:13	JGH	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/29/18 17:13	JGH	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.20	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.24	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.18	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.21	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.28	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.27	

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

Lab Sample ID: S87124.06 (continued)

Sample Tag: MW - 102S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.16	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.14	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.15	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/29/18 17:13	JGH	1.2	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.15	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.27	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 17:13	JGH	0.35	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 17:13	JGH	0.19	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.19	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.11	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.17	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.29	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.18	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.19	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.34	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.13	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.26	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 17:13	JGH	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.19	
1,3-Dichlorobenzene*	0.46	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.20	J
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:13	JGH	0.17	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.35	

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

Lab Sample ID: S87124.06 (continued)

Sample Tag: MW - 102S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.48	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.24	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:13	JGH	0.21	

Analytical Laboratory Report

Lab Sample ID: S87124.07
Sample Tag: MW - 111S
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 13:00	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 12:10	JKB	0.003	
Metals								
Arsenic, Dissolved	0.004	mg/L	0.002	E200.8	02/01/18 16:35	CCM	0.000385	
Arsenic	0.010	mg/L	0.002	E200.8	02/01/18 16:34	CCM	0.000385	
Chromium, Dissolved	0.037	mg/L	0.005	E200.8	02/01/18 16:35	CCM	0.000150	
Chromium	0.068	mg/L	0.005	E200.8	02/01/18 16:34	CCM	0.000150	
Copper, Dissolved	0.003403	mg/L	0.005	E200.8	02/01/18 16:35	CCM	0.000290	b
Copper	0.007	mg/L	0.005	E200.8	02/01/18 16:34	CCM	0.000290	
Lead, Dissolved	0.002084	mg/L	0.003	E200.8	02/01/18 16:35	CCM	0.0000550	b
Lead	0.006	mg/L	0.003	E200.8	02/01/18 16:34	CCM	0.0000550	
Selenium, Dissolved	0.001	mg/L	0.005	E200.8	02/02/18 12:30	JRH	0.000480	b
Selenium	0.001	mg/L	0.005	E200.8	02/02/18 12:27	JRH	0.000480	b
Zinc, Dissolved	0.007	mg/L	0.005	E200.8	02/01/18 16:35	CCM	0.00138	
Zinc	0.012	mg/L	0.005	E200.8	02/01/18 16:34	CCM	0.00138	
Organics - Volatiles								
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	02/01/18 17:02	JGH	0.71	
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/29/18 17:34	JGH	0.27	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 17:34	JGH	4.0	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 17:34	JGH	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/29/18 17:34	JGH	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.20	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.24	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.18	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.21	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.28	
1,1-Dichloroethene*	0.31	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.27	J

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

Lab Sample ID: S87124.07 (continued)

Sample Tag: MW - 111S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.16	
trans-1,2-Dichloroethene*	0.16	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.14	J
1,1-Dichloroethane*	2	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.15	
cis-1,2-Dichloroethene*	51	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/29/18 17:34	JGH	1.2	
Chloroform*	0.24	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.15	J
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.27	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 17:34	JGH	0.35	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 17:34	JGH	0.19	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.19	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.11	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.17	
Trichloroethene*	30	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.29	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.18	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.19	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.34	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.13	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.26	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 17:34	JGH	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.19	
1,3-Dichlorobenzene*	0.30	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.20	J
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:34	JGH	0.17	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.35	

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

Lab Sample ID: S87124.07 (continued)

Sample Tag: MW - 111S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.48	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.24	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:34	JGH	0.21	

Analytical Laboratory Report

Lab Sample ID: S87124.08
Sample Tag: MW - 103S
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 13:05	JKB	0.003	
Chromium VI	Not detected	mg/L	0.02	SM3500-Cr B	01/29/18 12:15	JKB	0.008	
Metals								
Arsenic, Dissolved	0.029	mg/L	0.002	E200.8	02/01/18 16:37	CCM	0.000385	
Arsenic	0.034	mg/L	0.002	E200.8	02/01/18 16:36	CCM	0.000385	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	02/01/18 16:37	CCM	0.000150	
Chromium	Not detected	mg/L	0.005	E200.8	02/01/18 16:36	CCM	0.000150	
Copper, Dissolved	0.000908	mg/L	0.005	E200.8	02/01/18 16:37	CCM	0.000290	b
Copper	0.000736	mg/L	0.005	E200.8	02/01/18 16:36	CCM	0.000290	b
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	02/01/18 16:37	CCM	0.0000550	
Lead	Not detected	mg/L	0.003	E200.8	02/01/18 16:36	CCM	0.0000550	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	02/02/18 12:34	JRH	0.000480	
Selenium	Not detected	mg/L	0.005	E200.8	02/02/18 12:32	JRH	0.000480	
Zinc, Dissolved	0.00190	mg/L	0.005	E200.8	02/01/18 16:37	CCM	0.00138	b
Zinc	0.00255	mg/L	0.005	E200.8	02/01/18 16:36	CCM	0.00138	b
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/29/18 18:15	JGH	0.27	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 18:15	JGH	4.0	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 18:15	JGH	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/29/18 18:15	JGH	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.20	
Vinyl chloride*	0.29	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.24	J
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.18	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.21	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.28	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.27	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.16	

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

Lab Sample ID: S87124.08 (continued)

Sample Tag: MW - 103S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.14	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.15	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/29/18 18:15	JGH	1.2	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.15	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.27	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 18:15	JGH	0.35	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 18:15	JGH	0.19	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.19	
Benzene*	0.20	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.11	J
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.17	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.29	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.18	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.19	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.34	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.13	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.26	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 18:15	JGH	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.19	
1,3-Dichlorobenzene*	0.43	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.20	J
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 18:15	JGH	0.17	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.35	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.48	

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

Lab Sample ID: S87124.08 (continued)

Sample Tag: MW - 103S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.24	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 18:15	JGH	0.21	

Analytical Laboratory Report

Lab Sample ID: S87124.09
Sample Tag: Field Dupe
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
Metal Digestion	Completed			SW3015A	02/01/18 13:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Inorganics								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	01/29/18 13:10	JKB	0.003	
Chromium VI	Not detected	mg/L	0.02	SM3500-Cr B	01/29/18 12:20	JKB	0.008	
Metals								
Arsenic, Dissolved	0.108	mg/L	0.002	E200.8	02/01/18 16:39	CCM	0.000385	
Arsenic	0.131	mg/L	0.002	E200.8	02/01/18 16:38	CCM	0.000385	
Chromium, Dissolved	0.000537	mg/L	0.005	E200.8	02/01/18 16:39	CCM	0.000150	b
Chromium	0.004368	mg/L	0.005	E200.8	02/01/18 16:38	CCM	0.000150	b
Copper, Dissolved	0.000555	mg/L	0.005	E200.8	02/01/18 16:39	CCM	0.000290	b
Copper	0.001671	mg/L	0.005	E200.8	02/01/18 16:38	CCM	0.000290	b
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	02/01/18 16:39	CCM	0.0000550	
Lead	0.001217	mg/L	0.003	E200.8	02/01/18 16:38	CCM	0.0000550	b
Selenium, Dissolved	0.001	mg/L	0.005	E200.8	02/02/18 12:39	JRH	0.000480	b
Selenium	0.001	mg/L	0.005	E200.8	02/02/18 12:37	JRH	0.000480	b
Zinc, Dissolved	0.00250	mg/L	0.005	E200.8	02/01/18 16:39	CCM	0.00138	b
Zinc	0.015	mg/L	0.005	E200.8	02/01/18 16:38	CCM	0.00138	
Organics - Volatiles								
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	02/01/18 17:23	JGH	0.71	
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/29/18 17:54	JGH	0.27	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 17:54	JGH	4.0	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 17:54	JGH	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/29/18 17:54	JGH	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.20	
Vinyl chloride*	1	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.24	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.18	
Chloroethane*	0.31	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.21	J
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.28	

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

Lab Sample ID: S87124.09 (continued)

Sample Tag: Field Dupe

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.27	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.16	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.14	
1,1-Dichloroethane*	0.75	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.15	J
cis-1,2-Dichloroethene*	2	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/29/18 17:54	JGH	1.2	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.15	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.27	
4-Methyl-2-pentanone (MIBK)*	0.41	ug/L	50	SW5030C/8260B	01/29/18 17:54	JGH	0.35	J
2-Hexanone*	0.95	ug/L	50	SW5030C/8260B	01/29/18 17:54	JGH	0.19	J
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.19	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.11	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.17	
Trichloroethene*	0.83	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.29	J
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.18	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.19	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.34	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.13	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.26	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 17:54	JGH	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.19	
1,3-Dichlorobenzene*	0.26	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.20	J
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 17:54	JGH	0.17	

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

Lab Sample ID: S87124.09 (continued)

Sample Tag: Field Dupe

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.35	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.48	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.24	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 17:54	JGH	0.21	

Lab Sample ID: S87124.10
Sample Tag: Trip Blank
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
2	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/29/18 14:26	JGH	0.27	
Acetone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 14:26	JGH	4.0	
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 14:26	JGH	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/29/18 14:26	JGH	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.20	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.24	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.18	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.21	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.28	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.27	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.16	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.14	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.15	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/29/18 14:26	JGH	1.2	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.15	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.27	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 14:26	JGH	0.35	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 14:26	JGH	0.19	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.19	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.11	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.17	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.29	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.18	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.19	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.34	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.13	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.26	

Lab Sample ID: S87124.10 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 14:26	JGH	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.19	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.20	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:26	JGH	0.17	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.35	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.48	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.24	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:26	JGH	0.21	

Lab Sample ID: S87124.11
Sample Tag: Equipment Blank
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/29/18 14:47	JGH	0.27	
Acetone*	6.4	ug/L	50	SW5030C/8260B	01/29/18 14:47	JGH	4.0	J
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 14:47	JGH	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/29/18 14:47	JGH	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.20	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.24	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.18	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.21	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.28	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.27	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.16	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.14	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.15	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/29/18 14:47	JGH	1.2	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.15	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.27	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 14:47	JGH	0.35	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 14:47	JGH	0.19	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.19	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.11	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.17	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.29	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.18	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.19	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.34	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.13	
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.26	

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

Lab Sample ID: S87124.11 (continued)

Sample Tag: Equipment Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 14:47	JGH	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.19	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.20	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 14:47	JGH	0.17	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.35	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.48	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.24	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 14:47	JGH	0.21	

Lab Sample ID: S87124.12
Sample Tag: Field Blank
Collected Date/Time: 01/28/2018 15:30
Matrix: Liquid
COC Reference: 103838

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	4.3	IR
1	125ml Plastic	HNO3	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	01/30/18 12:00	JML		
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether*	Not detected	ug/L	10	SW5030C/8260B	01/29/18 15:08	JGH	0.27	
Acetone*	6.3	ug/L	50	SW5030C/8260B	01/29/18 15:08	JGH	4.0	J
Methyl iodide*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.24	
Carbon disulfide*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.13	
tert-Methyl butyl ether (MTBE)*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.25	
Acrylonitrile*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 15:08	JGH	0.38	
2-Butanone (MEK)*	Not detected	ug/L	25	SW5030C/8260B	01/29/18 15:08	JGH	3.3	
Dichlorodifluoromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.57	
Chloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.20	
Vinyl chloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.24	
Bromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.18	
Chloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.21	
Trichlorofluoromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.28	
1,1-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.27	
Methylene chloride*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.16	
trans-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.14	
1,1-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.15	
cis-1,2-Dichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.21	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260B	01/29/18 15:08	JGH	1.2	
Chloroform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.15	
Bromochloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.36	
1,1,1-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.27	
4-Methyl-2-pentanone (MIBK)*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 15:08	JGH	0.35	
2-Hexanone*	Not detected	ug/L	50	SW5030C/8260B	01/29/18 15:08	JGH	0.19	
Carbon tetrachloride*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.19	
Benzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.11	
1,2-Dichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.17	
Trichloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.29	
1,2-Dichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.18	
Bromodichloromethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.19	
Dibromomethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.45	
cis-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.17	
Toluene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.17	
trans-1,3-Dichloropropene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.20	
1,1,2-Trichloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.34	
Tetrachloroethene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.13	

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

Lab Sample ID: S87124.12 (continued)

Sample Tag: Field Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
trans-1,4-Dichloro-2-butene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.26	
Dibromochloromethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.20	
1,2-Dibromoethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.12	
Chlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.16	
1,1,1,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.22	
Ethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.10	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260B	01/29/18 15:08	JGH	0.42	
o-Xylene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.16	
Styrene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.13	
Isopropylbenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.12	
Bromoform*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.35	
1,1,2,2-Tetrachloroethane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.27	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.54	
n-Propylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.12	
Bromobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.15	
1,3,5-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.18	
tert-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.14	
1,2,4-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.16	
sec-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.16	
p-Isopropyltoluene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.19	
1,3-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.20	
1,4-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.18	
1,2-Dichlorobenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.13	
1,2,3-Trimethylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.14	
n-Butylbenzene*	Not detected	ug/L	1	SW5030C/8260B	01/29/18 15:08	JGH	0.17	
Hexachloroethane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.35	
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.48	
1,2,4-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.24	
1,2,3-Trichlorobenzene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.25	
Naphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.18	
2-Methylnaphthalene*	Not detected	ug/L	5	SW5030C/8260B	01/29/18 15:08	JGH	0.21	

Merit Laboratories, Inc.

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www.meritlabs.com

C.O.C. PAGE # 1 OF 2

103838

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME (Applied EcoSystems Steve Duvernois
COMPANY
ADDRESS 4300 S. Saginaw St
CITY Burton STATE MI ZIP CODE 48529 48519
PHONE NO. 810 715 2525 FAX NO. P.O. NO.
E-MAIL ADDRESS sduvernois@appliedecosystems.com/ mikesmith QUOTE NO.

INVOICE TO

CONTACT NAME Steve Duvernois ☐ SAME
COMPANY Applied Ecosystems
ADDRESS
CITY STATE ZIP CODE
PHONE NO. E-MAIL ADDRESS

PROJECT NO./NAME Racer/Flint
SAMPLER(S) - PLEASE PRINT/SIGN NAME Steve Duvernois

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	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	total chromium	Hex Chromium	Arsenic	copper	Lead	Selenium	Zinc	1,4 Dioxane
87124.01	1-28-18	3:30p	MW-105S	S									X	X	X	X	X	X	X	X	
.02			MW-104S	S									X	X	X	X	X	X	X	X	
SD			MW-100S	S									X	X	X	X	X	X	X	X	
.03			MW-107S	S									X	X	X	X	X	X	X	X	
.04			MW-112S	S									X	X	X	X	X	X	X	X	X
.05			MW-101S	S									X	X	X	X	X	X	X	X	X
.06			MW-102S	S									X	X	X	X	X	X	X	X	X
.07			MW-111S	S									X	X	X	X	X	X	X	X	X
.08			MW-103S	S									X	X	X	X	X	X	X	X	
.09			Field dupe	S									X	X	X	X	X	X	X	X	
.10			trip Blank	@4									X	X	X	X	X	X	X	X	← only VOC
.11			Equipment Blank	S									X	X	X	X	X	X	X	X	NO Hex chrom

All metals Dissolved & total

RELINQUISHED BY: SIGNATURE/ORGANIZATION ☐ Sampler	DATE 1-29-18	TIME	
RECEIVED BY: SIGNATURE/ORGANIZATION M Chilcote	DATE 1/29/18	TIME 1015	
RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME	

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

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

NOTES: TEMP. ON ARRIVAL 4.3

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

Rev. 5.18.12

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 # 2 OF 2

104732

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Steve Duvernois
COMPANY: Applied Ecosystems
ADDRESS: 4300 S. Saginaw
CITY: Burton STATE: MI ZIP CODE: 48509
PHONE NO.: 810 715 2525 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: sduvernois@appliedecosystems.com/ MikeSmith QUOTE NO.:

INVOICE TO

CONTACT NAME: Steve Duvernois ☐ SAME
COMPANY: ←
ADDRESS: ←
CITY: ← STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer/Flint
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Steve Duvernois

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	total chromium	hex chromium	Arsenic	Copper	Lead	Selenium	Zinc	Special Instructions
87124.12	1-08-18	3:30p	Field Blank		5								X	X	X	X	X	X	X	X	All metals Dissolved & total

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Steve ☐ Sampler DATE: 1-09-18 TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: M Dilcole DATE: 1/09/18 TIME: 1015
RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

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

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

NOTES: TEMP. ON ARRIVAL 4.3

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

Rev. 5.18.12

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Tel: (810)229-2763

TestAmerica Job ID: 190-15418-1
Client Project/Site: Applied Ecosystems

For:
Applied EcoSystems, Inc.
G-4300 South Saginaw St.
Burton, Michigan 48529

Attn: Mike Smith

Sue Schafer

Authorized for release by:
2/9/2018 8:34:44 AM

Sue Schafer, Project Manager II
(810)229-2763
sue.schafer@testamericainc.com

Table of Contents

Sample Summary

Client: Applied EcoSystems, Inc.
Project/Site: Applied Ecosystems

TestAmerica Job ID: 190-15418-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
190-15418-1	Field Dup	Water	01/28/18 15:30	01/29/18 11:31
190-15418-2	Field Blank	Water	01/28/18 15:30	01/29/18 11:31
190-15418-3	Trip Blank	Water	01/28/18 15:30	01/29/18 11:31
190-15418-4	Equipment Blank	Water	01/28/18 15:30	01/29/18 11:31
190-15418-5	MW-101S	Water	01/28/18 15:30	01/29/18 11:31
190-15418-6	MW-102S	Water	01/28/18 15:30	01/29/18 11:31
190-15418-7	MW-112S	Water	01/28/18 15:30	01/29/18 11:31
190-15418-8	MW-111S	Water	01/28/18 15:30	01/29/18 11:31

Job ID: 190-15418-1

Laboratory: TestAmerica Michigan

Narrative

Job Narrative
190-15418-1

Comments
No additional comments.

Receipt
The samples were received on 1/29/2018 11:31 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.0º C.

LCMS
Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery for several IDA is above the method recommended limit for the following samples: Field Dup (190-15418-1) and MW-112S (190-15418-7). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): The following sample has chromatographic interferences for Perfluorobutanesulfonic acid (PFBS) that could adversely impact the identification and quantitation of target analytes: MW-112S (190-15418-7) These interferences could cause false positive results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3535: Approximately 250mL of the following samples, Field Dup (190-15418-1), MW-101S (190-15418-5), MW-102S (190-15418-6), MW-112S (190-15418-7) and MW-111S (190-15418-8), was decanted into a new polypropylene bottle prior to extraction due to the original sample bottle containing excessive amounts of sediment which had the potential to clog the solid-phase column. Samples are associated with method 3535_PFC inpreparation batch 320-206637

3535_PFC
Aqueous

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client Sample Results

Client: Applied EcoSystems, Inc.
Project/Site: Applied Ecosystems

TestAmerica Job ID: 190-15418-1

Client Sample ID: Field Dup

Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**5.3**		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorobutanoic acid (PFBA)	**180**		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorodecanesulfonic acid (PFDS)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorodecanoic acid (PFDA)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorododecanoic acid (PFDoA)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluoroheptanoic acid (PFHpA)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorohexanesulfonic acid (PFHxS)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorohexanoic acid (PFHxA)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorononanoic acid (PFNA)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorooctane Sulfonamide (FOSA)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorooctanesulfonic acid (PFOS)	**16**		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorooctanoic acid (PFOA)	**4.0**		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluoropentanoic acid (PFPeA)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorotetradecanoic acid (PFTeA)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluorotridecanoic Acid (PFTriA)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1
Perfluoroundecanoic acid (PFUnA)	<2.1		2.1		ng/L		02/02/18 08:04	02/03/18 07:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*126*		*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C4 PFBA	*50*		*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C3-PFBS	*130*		*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C2 PFDA	*178*	*	*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C2 PFDoA	*186*	*	*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C4-PFHpA	*111*		*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C2 PFHxA	*112*		*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C5 PFNA	*148*		*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C4 PFOA	*106*		*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C4 PFOS	*135*		*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C5 PFPeA	*103*		*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C2-PFTeDA	*181*	*	*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
13C2 PFUnA	*187*	*	*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*
18O2 PFHxS	*123*		*25 - 150*	*02/02/18 08:04*	*02/03/18 07:59*	*1*

Client Sample ID: Field Blank

Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorooctane Sulfonamide (FOSA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluorotridecanoic Acid (PFTriA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*103*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C4 PFBA	*113*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C3-PFBS	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C2 PFDA	*117*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C2 PFDoA	*109*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C4-PFHpA	*109*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C2 PFHxA	*112*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C5 PFNA	*119*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C4 PFOA	*114*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C4 PFOS	*111*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C5 PFPeA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C2-PFTeDA	*137*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
13C2 PFUnA	*116*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*
18O2 PFHxS	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:07*	*1*

Client Sample ID: Trip Blank

Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorooctane Sulfonamide (FOSA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluorotridecanoic Acid (PFTriA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*103*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C4 PFBA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C3-PFBS	*105*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C2 PFDA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C2 PFDoA	*106*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C4-PFHpA	*112*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C2 PFHxA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C5 PFNA	*118*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C4 PFOA	*111*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C4 PFOS	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C5 PFPeA	*113*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C2-PFTeDA	*131*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
13C2 PFUnA	*106*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*
18O2 PFHxS	*111*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:15*	*1*

Client Sample ID: Equipment Blank

Lab Sample ID: 190-15418-4

Date Collected: 01/28/18 15:30

Matrix: Water

Date Received: 01/29/18 11:31

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorobutanoic acid (PFBA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorooctane Sulfonamide (FOSA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluoropentanoic acid (PFPeA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluorotridecanoic Acid (PFTriA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*99*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C4 PFBA	*109*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C3-PFBS	*99*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C2 PFDA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C2 PFDoA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C4-PFHpA	*103*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C2 PFHxA	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C5 PFNA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C4 PFOA	*106*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C4 PFOS	*106*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C5 PFPeA	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C2-PFTeDA	*136*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
13C2 PFUnA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*
18O2 PFHxS	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:23*	*1*

Client Sample ID: MW-101S

Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-5

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorobutanoic acid (PFBA)	**3.1**		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorooctane Sulfonamide (FOSA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorooctanesulfonic acid (PFOS)	**35**		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorooctanoic acid (PFOA)	**4.4**		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluoropentanoic acid (PFPeA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluorotridecanoic Acid (PFTriA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*102*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C4 PFBA	*97*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C3-PFBS	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C2 PFDA	*114*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C2 PFDoA	*106*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C4-PFHpA	*109*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C2 PFHxA	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C5 PFNA	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C4 PFOA	*113*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C4 PFOS	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C5 PFPeA	*114*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C2-PFTeDA	*123*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
13C2 PFUnA	*104*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*
18O2 PFHxS	*105*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:31*	*1*

Client Sample ID: MW-102S

Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-6

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorobutanoic acid (PFBA)	**4.8**		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorohexanoic acid (PFHxA)	**2.5**		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorooctane Sulfonamide (FOSA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorooctanesulfonic acid (PFOS)	**7.0**		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorooctanoic acid (PFOA)	**4.1**		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluoropentanoic acid (PFPeA)	**2.3**		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluorotridecanoic Acid (PFTriA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 08:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*104*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C4 PFBA	*87*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C3-PFBS	*102*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C2 PFDA	*111*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C2 PFDoA	*99*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C4-PFHpA	*106*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C2 PFHxA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C5 PFNA	*113*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C4 PFOA	*111*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C4 PFOS	*111*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C5 PFPeA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C2-PFTeDA	*112*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
13C2 PFUnA	*99*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*
18O2 PFHxS	*113*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:39*	*1*

Client Sample ID: MW-112S

Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-7

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**8.1**	**CI**	1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorobutanoic acid (PFBA)	**180**		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorooctane Sulfonamide (FOSA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorooctanesulfonic acid (PFOS)	**16**		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorooctanoic acid (PFOA)	**4.2**		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluoropentanoic acid (PFPeA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluorotridecanoic Acid (PFTriA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*127*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C4 PFBA	*49*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C3-PFBS	*121*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C2 PFDA	*175*	*	*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C2 PFDoA	*177*	*	*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C4-PFHpA	*114*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C2 PFHxA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C5 PFNA	*151*	*	*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C4 PFOA	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C4 PFOS	*137*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C5 PFPeA	*99*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C2-PFTeDA	*171*	*	*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
13C2 PFUnA	*191*	*	*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*
18O2 PFHxS	*132*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:47*	*1*

Client Sample ID: MW-111S

Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-8

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorobutanoic acid (PFBA)	**4.8**		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorohexanesulfonic acid (PFHxS)	**1.9**		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorohexanoic acid (PFHxA)	**2.6**		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorooctane Sulfonamide (FOSA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorooctanesulfonic acid (PFOS)	**44**		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorooctanoic acid (PFOA)	**4.4**		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluoropentanoic acid (PFPeA)	**6.1**		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluorotridecanoic Acid (PFTriA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		02/02/18 08:04	02/03/18 08:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C4 PFBA	*38*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C3-PFBS	*96*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C2 PFDA	*126*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C2 PFDoA	*106*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C4-PFHpA	*89*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C2 PFHxA	*85*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C5 PFNA	*123*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C4 PFOA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C4 PFOS	*120*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C5 PFPeA	*75*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C2-PFTeDA	*116*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
13C2 PFUnA	*112*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*
18O2 PFHxS	*102*		*25 - 150*	*02/02/18 08:04*	*02/03/18 08:55*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-206637/1-A
Matrix: Water
Analysis Batch: 206883

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206637

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorooctane Sulfonamide (FOSA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorotridecanoic Acid (PFTriA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		02/02/18 08:04	02/03/18 06:34	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*100*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C4 PFBA	*113*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C3-PFBS	*106*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C2 PFDA	*114*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C2 PFDoA	*99*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C4-PFHpA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C2 PFHxA	*109*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C5 PFNA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C4 PFOA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C4 PFOS	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C5 PFPeA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C2-PFTeDA	*118*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C2 PFUnA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
18O2 PFHxS	*111*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*

Lab Sample ID: LCS 320-206637/2-A
Matrix: Water
Analysis Batch: 206883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206637

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanesulfonic acid (PFBS)	35.4	36.3		ng/L		103	79 - 139
Perfluorobutanoic acid (PFBA)	40.0	35.9		ng/L		90	78 - 138
Perfluorodecanesulfonic acid (PFDS)	38.6	37.1		ng/L		96	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	35.8		ng/L		89	74 - 134
Perfluorododecanoic acid (PFDoA)	40.0	36.7		ng/L		92	72 - 132

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-206637/2-A
Matrix: Water
Analysis Batch: 206883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206637

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	36.6		ng/L		96	83 - 143
Perfluoroheptanoic acid (PFHpA)	40.0	37.0		ng/L		92	78 - 138
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.5		ng/L		89	77 - 137
Perfluorohexanoic acid (PFHxA)	40.0	34.3		ng/L		86	76 - 136
Perfluorononanoic acid (PFNA)	40.0	35.8		ng/L		90	77 - 137
Perfluorooctane Sulfonamide (FOSA)	40.0	36.9		ng/L		92	82 - 142
Perfluorooctanesulfonic acid (PFOS)	37.1	34.8		ng/L		94	74 - 134
Perfluorooctanoic acid (PFOA)	40.0	36.4		ng/L		91	70 - 130
Perfluoropentanoic acid (PFPeA)	40.0	34.8		ng/L		87	66 - 136
Perfluorotetradecanoic acid (PFTeA)	40.0	36.6		ng/L		91	63 - 123
Perfluorotridecanoic Acid (PFTriA)	40.0	38.4		ng/L		96	56 - 163
Perfluoroundecanoic acid (PFUnA)	40.0	37.1		ng/L		93	68 - 128

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C8 FOSA	*101*		*25 - 150*
13C4 PFBA	*112*		*25 - 150*
13C3-PFBS	*101*		*25 - 150*
13C2 PFDA	*111*		*25 - 150*
13C2 PFDoA	*104*		*25 - 150*
13C4-PFHpA	*110*		*25 - 150*
13C2 PFHxA	*111*		*25 - 150*
13C5 PFNA	*109*		*25 - 150*
13C4 PFOA	*111*		*25 - 150*
13C4 PFOS	*103*		*25 - 150*
13C5 PFPeA	*110*		*25 - 150*
13C2-PFTeDA	*124*		*25 - 150*
13C2 PFUnA	*106*		*25 - 150*
18O2 PFHxS	*105*		*25 - 150*

Lab Sample ID: LCSD 320-206637/3-A
Matrix: Water
Analysis Batch: 206883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206637

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanesulfonic acid (PFBS)	35.4	33.7		ng/L		95	79 - 139	7	30
Perfluorobutanoic acid (PFBA)	40.0	36.6		ng/L		91	78 - 138	2	30
Perfluorodecanesulfonic acid (PFDS)	38.6	38.1		ng/L		99	75 - 135	2	30
Perfluorodecanoic acid (PFDA)	40.0	34.8		ng/L		87	74 - 134	3	30
Perfluorododecanoic acid (PFDoA)	40.0	36.1		ng/L		90	72 - 132	2	30
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	35.1		ng/L		92	83 - 143	4	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-206637/3-A
Matrix: Water
Analysis Batch: 206883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206637

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)			40.0	35.4		ng/L		89	78 - 138	4	30
Perfluorohexanesulfonic acid (PFHxS)			36.4	32.9		ng/L		90	77 - 137	1	30
Perfluorohexanoic acid (PFHxA)			40.0	36.6		ng/L		92	76 - 136	6	30
Perfluorononanoic acid (PFNA)			40.0	35.0		ng/L		87	77 - 137	2	30
Perfluorooctane Sulfonamide (FOSA)			40.0	36.3		ng/L		91	82 - 142	2	30
Perfluorooctanesulfonic acid (PFOS)			37.1	32.6		ng/L		88	74 - 134	6	30
Perfluorooctanoic acid (PFOA)			40.0	35.5		ng/L		89	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)			40.0	35.1		ng/L		88	66 - 136	1	30
Perfluorotetradecanoic acid (PFTeA)			40.0	41.8		ng/L		105	63 - 123	13	30
Perfluorotridecanoic Acid (PFTriA)			40.0	39.6		ng/L		99	56 - 163	3	30
Perfluoroundecanoic acid (PFUnA)			40.0	38.2		ng/L		96	68 - 128	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C8 FOSA	*102*		*25 - 150*
13C4 PFBA	*112*		*25 - 150*
13C3-PFBS	*107*		*25 - 150*
13C2 PFDA	*112*		*25 - 150*
13C2 PFDoA	*108*		*25 - 150*
13C4-PFHpA	*108*		*25 - 150*
13C2 PFHxA	*103*		*25 - 150*
13C5 PFNA	*110*		*25 - 150*
13C4 PFOA	*104*		*25 - 150*
13C4 PFOS	*104*		*25 - 150*
13C5 PFPeA	*106*		*25 - 150*
13C2-PFTeDA	*126*		*25 - 150*
13C2 PFUnA	*103*		*25 - 150*
18O2 PFHxS	*106*		*25 - 150*

Lab Chronicle

Client: Applied EcoSystems, Inc.
Project/Site: Applied Ecosystems

TestAmerica Job ID: 190-15418-1

Client Sample ID: Field Dup
Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			206637	02/02/18 08:04	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1	206883	02/03/18 07:59	JRB	TAL SAC

Client Sample ID: Field Blank
Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			206637	02/02/18 08:04	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1	206883	02/03/18 08:07	JRB	TAL SAC

Client Sample ID: Trip Blank
Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			206637	02/02/18 08:04	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1	206883	02/03/18 08:15	JRB	TAL SAC

Client Sample ID: Equipment Blank
Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			206637	02/02/18 08:04	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1	206883	02/03/18 08:23	JRB	TAL SAC

Client Sample ID: MW-101S
Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			206637	02/02/18 08:04	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1	206883	02/03/18 08:31	JRB	TAL SAC

Client Sample ID: MW-102S
Date Collected: 01/28/18 15:30
Date Received: 01/29/18 11:31

Lab Sample ID: 190-15418-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			206637	02/02/18 08:04	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1	206883	02/03/18 08:39	JRB	TAL SAC

Lab Chronicle

Client: Applied EcoSystems, Inc.
Project/Site: Applied Ecosystems

TestAmerica Job ID: 190-15418-1

Client Sample ID: MW-112S

Lab Sample ID: 190-15418-7

Date Collected: 01/28/18 15:30

Matrix: Water

Date Received: 01/29/18 11:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			206637	02/02/18 08:04	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1	206883	02/03/18 08:47	JRB	TAL SAC

Client Sample ID: MW-111S

Lab Sample ID: 190-15418-8

Date Collected: 01/28/18 15:30

Matrix: Water

Date Received: 01/29/18 11:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			206637	02/02/18 08:04	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1	206883	02/03/18 08:55	JRB	TAL SAC

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Analyst References:

Lab: TAL SAC

Batch Type: Prep

J1S = Jonathan Santos

Batch Type: Analysis

JRB = John Barnett

Method Summary

Client: Applied EcoSystems, Inc.
Project/Site: Applied Ecosystems

TestAmerica Job ID: 190-15418-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Definitions/Glossary

Client: Applied EcoSystems, Inc.
Project/Site: Applied Ecosystems

TestAmerica Job ID: 190-15418-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
CI	The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is reason to suspect there may be a high bias.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: Applied EcoSystems, Inc.
Project/Site: Applied Ecosystems

TestAmerica Job ID: 190-15418-1

LCMS

Prep Batch: 206637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-15418-1	Field Dup	Total/NA	Water	3535	
190-15418-2	Field Blank	Total/NA	Water	3535	
190-15418-3	Trip Blank	Total/NA	Water	3535	
190-15418-4	Equipment Blank	Total/NA	Water	3535	
190-15418-5	MW-101S	Total/NA	Water	3535	
190-15418-6	MW-102S	Total/NA	Water	3535	
190-15418-7	MW-112S	Total/NA	Water	3535	
190-15418-8	MW-111S	Total/NA	Water	3535	
MB 320-206637/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-206637/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-206637/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 206883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-15418-1	Field Dup	Total/NA	Water	537 (modified)	206637
190-15418-2	Field Blank	Total/NA	Water	537 (modified)	206637
190-15418-3	Trip Blank	Total/NA	Water	537 (modified)	206637
190-15418-4	Equipment Blank	Total/NA	Water	537 (modified)	206637
190-15418-5	MW-101S	Total/NA	Water	537 (modified)	206637
190-15418-6	MW-102S	Total/NA	Water	537 (modified)	206637
190-15418-7	MW-112S	Total/NA	Water	537 (modified)	206637
190-15418-8	MW-111S	Total/NA	Water	537 (modified)	206637
MB 320-206637/1-A	Method Blank	Total/NA	Water	537 (modified)	206637
LCS 320-206637/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	206637
LCSD 320-206637/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	206637

Accreditation/Certification Summary

Client: Applied EcoSystems, Inc.
Project/Site: Applied Ecosystems

TestAmerica Job ID: 190-15418-1

Laboratory: TestAmerica Michigan

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Michigan	State Program	5	57	05-05-20

Laboratory: TestAmerica Sacramento

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-020	01-20-21
Arizona	State Program	9	AZ0708	08-11-18
Arkansas DEQ	State Program	6	88-0691	06-17-18
California	State Program	9	2897	01-31-19
Colorado	State Program	8	CA00044	08-31-18
Connecticut	State Program	1	PH-0691	06-30-19
Florida	NELAP	4	E87570	06-30-18
Georgia	State Program	4	N/A	01-28-19
Hawaii	State Program	9	N/A	01-29-19
Illinois	NELAP	5	200060	03-17-18
Kansas	NELAP	7	E-10375	10-31-18
L-A-B	DoD ELAP		L2468	01-20-21
Louisiana	NELAP	6	30612	06-30-18
Maine	State Program	1	CA0004	04-14-18
Michigan	State Program	5	9947	01-31-18 *
Nevada	State Program	9	CA00044	07-31-18
New Hampshire	NELAP	1	2997	04-18-18
New Jersey	NELAP	2	CA005	06-30-18
New York	NELAP	2	11666	04-01-18
Oregon	NELAP	10	4040	01-29-19
Pennsylvania	NELAP	3	68-01272	03-31-18
Texas	NELAP	6	T104704399	05-31-18
US Fish & Wildlife	Federal		LE148388-0	07-31-18
USDA	Federal		P330-11-00436	01-17-21
USEPA UCMR	Federal	1	CA00044	11-06-18
Utah	NELAP	8	CA00044	02-28-18
Virginia	NELAP	3	460278	03-14-18
Washington	State Program	10	C581	05-05-18
West Virginia (DW)	State Program	3	9930C	12-31-18
Wyoming	State Program	8	8TMS-L	01-28-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone: 916.373.5600 Fax:

Chain of Custody Record 242583

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Mike Smith	Site Contact: Mike Smith	Date: 1-29-18	COC No:
Company Name: Applied Ecosystems	Tel/Fax:	Lab Contact:	Carrier:	1 of 1 COCs
Address: 4300 S. Saginaw	Analysis Turnaround Time			Sampler:
City/State/Zip: Burton, MI 48529	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 810-715-2525	TAT if different from Below 10			Walk-in Client:
Fax:	☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day			Lab Sampling:
Project Name: Racer/Flint				Job / SDG No.:
Site:				
P O #				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PFCs all	Sample Specific Notes:
Field Dupe	1-28-18	3:30p	G		2			X	Including PFOA and PFOS
Field Blank			G		2			X	
Trip Blank			G		2			X	
Equipment Blank			G		2			X	
MW-101S			G		2			X	Groundwater Samples
MW-102S			G		2			X	
MW-112S			G		2			X	
MW-111S			G		2			X	

190-15418 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:
msmith@appliedecosystems.com

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Steve Duvernois	Applied Ecosystems	1/29/18 1130	Jeri Hall	TAL	1/29/18 1131
Relinquished by: Jeri Hall	Company: TAL	Date/Time: 1/29/18 1132	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

2/9/2018

TestAmerica

Cooler/Sample Receipt

(AFTER HOURS receipt: complete gray areas. Place cooler in Walk-in; place this form in Receiving in-box. Date/Time rec'd _____ Initials _____)

❑ MSDS or Known Hazard Information Supplied by Client
❑ Bottle stickers applied ❑ ELEMENT comment entered ❑ MSDS COC scanned/emailed to EH&S

❑ Discrepancies Client ID Applied Ecosystems

❑ Short Hold Work Order # 196-15418

❑ Rush ❑24hr ❑2day ❑3day ❑5day ❑other _____

Receipt evaluation performed by - Initials AmY Date 1/29/18 Time 11:45

Method of Shipment:
☒ Walk-In Client ❑ TestAmerica Field/Courier
❑ Other Client/3rd Party Courier _____
❑ Fed Ex Tracking # _____
❑ UPS Tracking # _____
❑ Other _____

Shipping Container Type:
☒ Cooler ❑ Box
❑ None ❑ Other _____

Packing Materials:
❑ Plastic Bags ❑ Foam
❑ Bubble Wrap ❑ Paper
❑ Packing Peanuts ☒ None
❑ Other _____

Custody Seals Intact:
❑ Yes ❑ No
☒ N/A (not used or required)

Cooling Materials:
☒ Ice (solid) ❑ Ice (Melted)
❑ Blue Ice ❑ None
❑ Other _____

Bacteriological Samples; Temp (°C) Corrected | Frozen yes no | Received within 2 hours yes no | Sample Flagged yes no

C.F.

Receipt Temperatures ❑ Check if Additional Sheets Required

Thermometer ID	Observed (°C)	Corrected (°C)	Temp Blank	Sample Temp	Received on same day sampled?	Acceptable?*	Cooler ID	Note Affected Samples if temperature not acceptable
140252483			❑	❑	❑Yes ❑No	❑Yes ❑No		
0.0 140252476	0.0	0.0	❑	☒	❑Yes ❑No	☒Yes ❑No		
			❑	❑	❑Yes ❑No	❑Yes ❑No		

* Receipt temperatures are considered acceptable if the samples are received on the same day they were collected & show signs that the cooling process has started. Temperature acceptance for most tests is ≤6.0°C, but not frozen. For additional information, please refer to SOP DT-SCA-004 *Sample Receipt and Login, Attachment 2 – Holding Times, Preservation and Container Requirements*

Receipt Questions**	Y	N	n/a	"No" answers require additional comment
COC present & TA receipt signature, date, & time properly documented?	✓			
Containers & labels in good condition? *(unbroken, not leaking, appropriately filled, labels legible & attached)*	✓			
Appropriate containers used & adequate volume provided?	✓			Preserved Bottles Checked with pH Strips* Yes No
Number of sample containers match COC?	✓			
Samples received within hold time?	✓			
Samples submitted for GRO and Volatiles analyses (8260, 624, 524) received without headspace?			✓	
Was a Trip Blank received with VOA samples?			✓	
Were the samples free of any questionable physical conformities? For example, field duplicates or multiple bottles of the same sample do not significantly vary in appearance (color, proportion of solids, etc.)	✓			
Were the COC, bottle labels, and all other items free of all other discrepancies or issues that would need to be addressed with the Project Manager and/or Client?	✓			

** May not be applicable if samples are not for compliance testing

* Excludes FOG, Volatiles, TOC Vials

Client Contact Record
Contact via: ❑ Phone ❑ Email ❑ Other _____ Person Contacted: _____ Date/Time: _____
❑ Discrepancy allowance agreement is on record in the client project file
Discussion/Resolution: put samples into cold storage for project completion / Logged 1/30/18

Any additional documentation and clarification from client must be noted in the narrative and/or scanned into the COC directory

Reviewed by PM Signature 1/29/18 Date

TestAmerica Michigan
10448 Citation Drive Suite 200
Brighton, MI 48116
Phone (810) 229-2763 Fax (810) 229-0000

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schafer, Sue	Carrier Tracking No(s):	COC No: 190-18006.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: sue.schafer@testamericainc.com	State of Origin: Michigan	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Kentucky (WW)		Job #: 190-15418-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 2/8/2018			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: CASH ONE TIME CLIENTS	Project #: 19000157			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC (MOD) PFAS, Standard List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Field Dup (190-15418-1)	1/28/18	15:30 Eastern		Water			X	2	
Field Blank (190-15418-2)	1/28/18	15:30 Eastern		Water			X	2	
Trip Blank (190-15418-3)	1/28/18	15:30 Eastern		Water			X	2	
Equipment Blank (190-15418-4)	1/28/18	15:30 Eastern		Water			X	2	
MW-101S (190-15418-5)	1/28/18	15:30 Eastern		Water			X	2	
MW-102S (190-15418-6)	1/28/18	15:30 Eastern		Water			X	2	
MW-112S (190-15418-7)	1/28/18	15:30 Eastern		Water			X	2	
MW-111S (190-15418-8)	1/28/18	15:30 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Jen Hall	1/30/18 1635			1-31-18 930	TA-Sac
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.5 AK-3

Ver: 09/20/2016

Isotope Dilution Summary

Client: Applied EcoSystems, Inc.
Project/Site: Applied Ecosystems

TestAmerica Job ID: 190-15418-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOSA (25-150)	PFBA (25-150)	3C3-PFBS (25-150)	PFDA (25-150)	PFDoA (25-150)	PFHpA (25-150)	PFHxA (25-150)	PFNA (25-150)
190-15418-1	Field Dup	126	50	130	178 *	186 *	111	112	148
190-15418-2	Field Blank	103	113	107	117	109	109	112	119
190-15418-3	Trip Blank	103	108	105	110	106	112	110	118
190-15418-4	Equipment Blank	99	109	99	110	110	103	107	108
190-15418-5	MW-101S	102	97	107	114	106	109	107	107
190-15418-6	MW-102S	104	87	102	111	99	106	108	113
190-15418-7	MW-112S	127	49	121	175 *	177 *	114	108	151 *
190-15418-8	MW-111S	107	38	96	126	106	89	85	123
LCS 320-206637/2-A	Lab Control Sample	101	112	101	111	104	110	111	109
LCSD 320-206637/3-A	Lab Control Sample Dup	102	112	107	112	108	108	103	110
MB 320-206637/1-A	Method Blank	100	113	106	114	99	108	109	110

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOA (25-150)	PFOS (25-150)	PFPeA (25-150)	PFTDA (25-150)	PFUnA (25-150)	PFHxS (25-150)		
190-15418-1	Field Dup	106	135	103	181 *	187 *	123		
190-15418-2	Field Blank	114	111	110	137	116	110		
190-15418-3	Trip Blank	111	110	113	131	106	111		
190-15418-4	Equipment Blank	106	106	107	136	108	110		
190-15418-5	MW-101S	113	108	114	123	104	105		
190-15418-6	MW-102S	111	111	108	112	99	113		
190-15418-7	MW-112S	107	137	99	171 *	191 *	132		
190-15418-8	MW-111S	110	120	75	116	112	102		
LCS 320-206637/2-A	Lab Control Sample	111	103	110	124	106	105		
LCSD 320-206637/3-A	Lab Control Sample Dup	104	104	106	126	103	106		
MB 320-206637/1-A	Method Blank	108	108	110	118	108	111		

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
13C3-PFBS = 13C3-PFBS
PFDA = 13C2 PFDA
PFDoA = 13C2 PFDoA
PFHpA = 13C4-PFHpA
PFHxA = 13C2 PFHxA
PFNA = 13C5 PFNA
PFOA = 13C4 PFOA
PFOS = 13C4 PFOS
PFPeA = 13C5 PFPeA
PFTDA = 13C2-PFTeDA
PFUnA = 13C2 PFUnA
PFHxS = 18O2 PFHxS

ATTACHMENT #4: SOIL ANALYTICAL TABLES

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

	Sample ID			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	SB129-4	SB129-8	SB129-18	SB130-4	SB130-10	SB130-18	SB131-4	SB131-10	SB131-18
	Date Collected			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	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
ANALYTE (ug/kg)	DW	GSI																										
Arsenic	5,800.00	5,800.00	D&G=B	1,130.00	1,100.00	1,830.00	570.00	1,440.00	1,410.00	1,300.00	1,250.00	1,180.00	410.00	1,630.00	2,060.00	1,780.00	500.00	1,550.00	1,150.00	2,790.00	1,740.00	1,460.00	3,580.00	1,700.00	1,980.00	1,630.00	1,300.00	2,080.00
Chromium	18,000.00	18,000.00	D&G=B	1,220.00	1,460.00	3,350.00	2,050.00	3,260.00	4,240.00	1,220.00	2,920.00	2,870.00	1,980.00	2,560.00	4,540.00	610.00	1,460.00	2,860.00	5,890.00	2,550.00	4,080.00	4,730.00	3,090.00	1,150.00	2,770.00	1,640.00	2,800.00	2,620.00
Copper	5,800,000.00	120,000.00	GX	1,700.00	2,300.00	8,200.00	7,400.00	6,100.00	11,400.00	3,400.00	3,100.00	5,600.00	1,600.00	3,000.00	5,800.00	1,200.00	3,900.00	5,600.00	5,300.00	13,000.00	3,600.00	7,200.00	17,700.00	1,700.00	9,800.00	8,500.00	3,100.00	7,900.00
Lead	700,000.00	5,000,000.00	GX	2,510.00	3,120.00	7,580.00	13,800.00	5,100.00	8,590.00	2,280.00	3,790.00	5,470.00	4,710.00	5,740.00	7,330.00	950.00	6,250.00	11,400.00	6,950.00	104,000.00	6,100.00	7,420.00	123,000.00	2,110.00	6,510.00	36,400.00	4,740.00	6,020.00
Selenium	4,000.00	410.00	G=B			210.00			210.00			160.00								130.00		150.00	140.00					
Zinc	2,400,000.00	2,600,000.00	G=B	4,600.00	5,100.00	19,000.00	11,400.00	12,200.00	20,800.00	5,900.00	8,600.00	14,700.00	3,700.00	10,300.00	20,300.00	2,400.00	6,000.00	13,200.00	9,900.00	21,300.00	13,100.00	19,200.00	51,800.00	5,800.00	18,000.00	16,800.00	13,600.00	18,600.00

ANALYTE (ug/kg)	DW	GSI																										
2 Butanone (MEK)	260,000.00	44,000.00		45.00	71.00	56.00		165.00	79.00	82.00	150.00	75.00	46.00	66.00	148.00	126.00	44.00	123.00	127.00	40.00	53.00	82.00	69.00	68.00	70.00	79.00	65.00	164.00
Vinyl Chloride	40.00	260.00							23.00																**73.00**			**90.00**
1,1-Dichloroethene	140.00	2,600.00																							34.00			18.00
trans-1,2-Dichloroethene	2,000.00	30,000.00																							100.00			62.00
1,1-Dichloroethane	18,000.00	15,000.00																							69.00			35.00
cis-1,2-Dichloroethene	1,400.00	12,000.00				58.00			350.00													300.00			**6,380.00**			**2,820.00**
Tetrahydrofuran	1,900.00	220,000.00		**170.00**	190.00	**190.00**	**150.00**	**180.00**	**180.00**	140.00	190.00	210.00	190.00	190.00	170.00	190.00	150.00	150.00	140.00	150.00	180.00	180.00	180.00	170.00	160.00	150.00	180.00	160.00
Chloroform	1,600.00	7,000.00							16.00																			
1,1,1-Trichloroethane	4,000.00	1,800.00							11.00													33.40						
Benzene	100.00	4,000.00																							36.00			
Trichloroethene	100.00	4,000.00				**1,420.00**			**3,650.00**													**6,170.00**			**6,080.00**	28.00		**12,160.00**
Toluene	16,000.00	5,400.00		11.00																13.00		19.00	31.00			45.00		
Ethylbenzene	1,500.00	360.00																					15.00					
Total Xylenes	5,600.00	820.00																		21.00			92.00			91.00		
Isopropylbenzene	91,000.00	3,200.00																16.00					13.00					
n-Propylbenzene	1,600.00	NC																					16.00					
1,2 -Dichlorobenzene	14,000.00	280.00																21.00										
1,2,4-Trimethylbenzene	2,100.00	570.00																		14.00			24.00			22.00		
1,2,3-Trimethylbenzene	NC	NC																13.50					13.40			11.80		
Naphthalene	35,000.00	730.00		10.80			14.40	17.00		13.70			12.90		14.30			345.70	46.90	39.50	12.50		51.50			100.30		
2-Methylnaphthalene	57,000.00	4,200.00		10.20			14.00	**39.00**		13.00	19.00				30.00		10.00	820.00	46.00	43.00			54.10			71.80		

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
GX	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

G

SOIL ANALYTICAL DATA (Detected VOCs)
RACER - Flint West #12990

	Sample ID			SB132-12	SB132-15	SB133-17	SB133-19	SB133-20
	Date Collected			7/10/14	7/10/14	7/10/14	7/10/14	7/10/14
ANALYTE (ug/kg)	**DW**	GSI						
2 Butanone (MEK)	260,000.00	44,000.00						
Vinyl Chloride	40.00	260.00		**180**	**89**	**46**		
1,1-Dichloroethene	140.00	2,600.00						
trans-1,2-Dichloroethene	2,000.00	30,000.00				18.00		
1,1-Dichloroethane	18,000.00	15,000.00				13.00		
cis-1,2-Dichloroethene	1,400.00	12,000.00		**2200.00**	1200.00	**1990.00**	530.00	270.00
Tetrahydrofuran	1,900.00	220,000.00		1500.00	300.00	150.00	160.00	117.00
Chloroform	1,600.00	7,000.00						
1,1,1-Trichloroethane	4,000.00	1,800.00				24.90	35.20	17.80
Benzene	100.00	4,000.00						
Trichloroethene	100.00	4,000.00		**29500**	**13700**	**11680**	**10860**	**7520**
Tetrachloroethene	100.00	1,200.00					17	
Toluene	16,000.00	5,400.00						
Ethylbenzene	1,500.00	360.00						
Total Xylenes	5,600.00	820.00						
Isopropylbenzene	91,000.00	3,200.00						
n-Propylbenzene	1,600.00	NC						
1,2 -Dichlorobenzene	14,000.00	280.00						
1,2,4-Trimethylbenzene	2,100.00	570.00						
1,2,3-Trimethylbenzene	NC	NC						
Naphthalene	35,000.00	730.00						
2-Methylnaphthalene	57,000.00	4,200.00				15.00	12.00	9.20

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
GX	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River

G

SOIL ANALYTICAL DATA
RACER - Flint West #12990

		Sample ID		SB134-18	SB135-19	SB136-19	SB137-18	SB134-20	SB135-21	SB136-21	SB137-20.5
		Date Collected		12/22/14	12/22/14	12/22/14	12/22/14	12/22/14	12/22/14	12/22/14	12/22/14
ANALYTE (ug/kg)	DW	GSI									
Arsenic	4,600	4,600		380	1,900	1,870	1,660	1,690	2,080	3,350	3,040
Cadmium	6,000	5,400	G								
Copper	5,800,000	120,000	G	4,500	4,000	4,600	4,200	3,000	3,900	4,300	4,500
Lead	700,000	7,700,000	G	5,690	2,850	3,060	2,810	3,380	2,890	3,740	3,240
Selenium	4,000	400									
Zinc	2,400,000	260,000	G	5,900	17,500	13,600	13,500	19,500	15,300	18,800	27,300
2 Butanone (MEK)	260,000	44,000									
Vinyl Chloride	40	260			14						56
1,1-Dichloroethene	140	2,600									
trans-1,2-Dichloroethene	2,000	30,000			10.9		14				
1,1-Dichloroethane	18,000	15,000									
cis-1,2-Dichloroethene	1,400	12,000			1,100	340	670	120	800	450	290
Tetrahydrofuran	1,900	220,000									
Chloroform	1,600	7,000									
1,1,1-Trichloroethane	4,000	1,800				12.5	20.5		8.7		
Benzene	100	4,000									
Trichloroethene	100	4,000			7,890	8,760	4,250	2,040	6,540	9,390	
Tetrachloroethene	100	1,200									
Toluene	16,000	5,400		70							
Ethylbenzene	1,500	360		16							
Total Xylenes	5,600	820		85							
Isopropylbenzene	91,000	3,200									
n-Propylbenzene	1,600	NC		14							
1,2 -Dichlorobenzene	14,000	280									
1,2,4-Trimethylbenzene	2,100	570									
1,2,3-Trimethylbenzene	NC	NC									
Naphthalene	35,000	730		36.6							
2-Methylnaphthalene	57,000	4,200		29							

NOTES:

	Blank cells indicate no detectable concentrations
X	Exceeds residential and non-residential DW criteria
X	Exceeds GSI criteriacalculated based on 257ppm total hardness in the Flint River
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
GX	Groundwater to Surface Water Interface Criteria - calculated based on 257ppm total hardness in the Flint River