



**DATA REPORT  
AND PROPOSED ADDITIONAL INVESTIGATION**

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

**FROM:** Mike Smith, Applied EcoSystems, Inc.

**DATE:** August 3, 2016

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

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- Figure 3: Groundwater Contour Map – October, 2015
- Figure 4: Summary of Drinking Water and GSI Exceedances in Groundwater (2012-2016)
- Figure 5: Summary of Drinking Water and GSI Exceedances in Soil (2012-2014)

**ATTACHMENTS:**

- Attachment 1: Cross Section Diagrams
- Attachment 2: Groundwater Analytical Tables (All investigations conducted by RACER to-date)
- Attachment 3: Groundwater Analytical Laboratory Reports (June, 2016)
- Attachment 4: Soil Analytical Tables (All investigations conducted by RACER to-date)

## 1.0 INTRODUCTION

Applied EcoSystems, Inc. (Applied EcoSystems) completed a groundwater monitoring event at the RACER Trust Flint West Industrial Land - #12990 Site on May 11, June 1, and June 8 as outlined in the February 23, 2016 Data Report 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.

There were no exceptions to the approved USEPA Scope of Work.

## 2.0 INVESTIGATION ACTIVITIES COMPLETED

### Groundwater Monitoring (Task 6)

- At least 72 hours prior to groundwater gauging and sample collection, each well was redeveloped using disposal manual bailers and a submersible pump. Wells were redeveloped until the recharge water exhibited limited visible turbidity. Some wells were redeveloped on multiple occasions to further reduce turbidity. Redevelopment water was contained in 55-gallon steel drums for disposal at a later date.
- All wells were gauged. No NAPL was encountered.
- All wells were sampled, except MW102S and MW105S, which did not produce sufficient groundwater for sample collection. Samples were analyzed for VOCs, and the following metals (total and dissolved): arsenic, chromium (total and hexavalent), copper, lead, selenium, and zinc. Analytical results are attached. A Soil Boring and Well Location Map is attached as Figure 2. A Groundwater Contour Map, prepared using the October 2015 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 INVESTIGATION 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 the 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. 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.

**Table 1.0 – Dissolved Metals Exceedances in Groundwater**

Well ID	Metal	Drinking Water Criterion	GSI Criterion	Result
MW-103S	Dissolved Zinc	2,400	<b>260</b>	1,870
MW-108S	Dissolved Selenium	50	<b>5</b>	6
MW-108S	Dissolved Zinc	2,400	<b>260</b>	1,220
MW-109S	Dissolved Zinc	2,400	<b>260</b>	730
MW-110S	Dissolved Zinc	2,400	<b>260</b>	373
MW-112S	Dissolved Arsenic	<b>10</b>	<b>10</b>	18
MW-113S	Dissolved Zinc	2,400	<b>260</b>	317

All results are expressed in ug/L

**VOCs:** (VOCs comparison includes the updated criteria published by the MDEQ on December 30, 2013). Exceedances were present as follows:

**Table 2.0 – VOCs Exceedances in Groundwater**

Well ID	VOC	Drinking Water Criterion	GSI Criterion	Result
MW-109S*	Trichloroethene	5	200	93
	Vinyl Chloride	2	13	15
MW-111S	Trichloroethene	5	200	11
MW-112S	Trichloroethene	5	200	12
	Vinyl Chloride	2	13	17
MW-113S*	Trichloroethene	5	200	50

- All results are expressed in ug/L

- \* Located on the former railroad property to the north of Flint West #12990.

Criteria in **red** indicate an exceedance for that pathway. A table of all groundwater sample analytical results for all groundwater samples collected by RACER is included as Attachment 2. Sample analytical results for the May/June, 2016 groundwater monitoring event are included as Attachment 3. Figure 4 illustrates the GSI and drinking water exceedances in groundwater identified from 2012 through 2016.

The primary constituents of concern are Trichloroethene, Tetrachloroethene, Vinyl Chloride, and cis-1,2-Dichloroethene. Elevated concentrations of Trichloroethene persist in down gradient wells. Tetrachloroethene was not detected in any of the down gradient wells. Note that elevated Tetrachloroethene levels have been consistently detected in one up gradient well, MW-105S since April 2012. While one well, MW-109S, still exhibits concentrations of Vinyl Chloride slightly above the DW criterion, concentrations of Vinyl Chloride appear to have significantly decreased overall. Concentrations of cis-1,2-Dichloroethene were below DW and GSI criteria since April 2014 until the October 2015 sampling event, where cis-1,2-Dichloroethene was detected in MW-109S slightly above the DW criterion. Concentrations of cis-1,2-Dichloroethene were below DW and GSI criteria this past sampling event.

The May 23, 2016 laboratory report includes three samples that were erroneously identified as follows: The sample reported as MW-112 is actually MW-106SR; the sample reported as MW-113 is actually MW-107S; and the sample reported as MW-120 is actually MW-112S. For the purposes of this report and attachments, the actual identification for each sample is used. The attached groundwater data table also presents the corrected identifications for these samples, with the erroneous identifications provided on the cells above.

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 by RACER, are included as Attachment 4.

#### 4.0 PROPOSED ADDITIONAL INVESTIGATION

An additional round of groundwater monitoring is planned for October, 2016. At least 72 hours prior to sample collection, each well will be re-developed using a disposable bailer to maximize agitation and a submersible pump to remove sediment. Development water will be contained in 55-gallon drums and disposed of off-site. Samples will be analyzed for the same parameters as analyzed for the May/June, 2016 event, including hexavalent chromium if possible, if turbidity levels are low enough. Other future action is dependent upon USEPA review and comment/approval of the previously submitted draft Corrective Measures Proposal (CMP).

#### 5.0 PROPOSED SCHEDULE:

Groundwater monitoring is planned for October, 2016. A schedule for any other future activities will be developed upon receipt of comments or approval from USEPA of the CMP.

FIGURES

# SITE LOCATION MAP

RACER Flint West

FIGURE

1

DATE

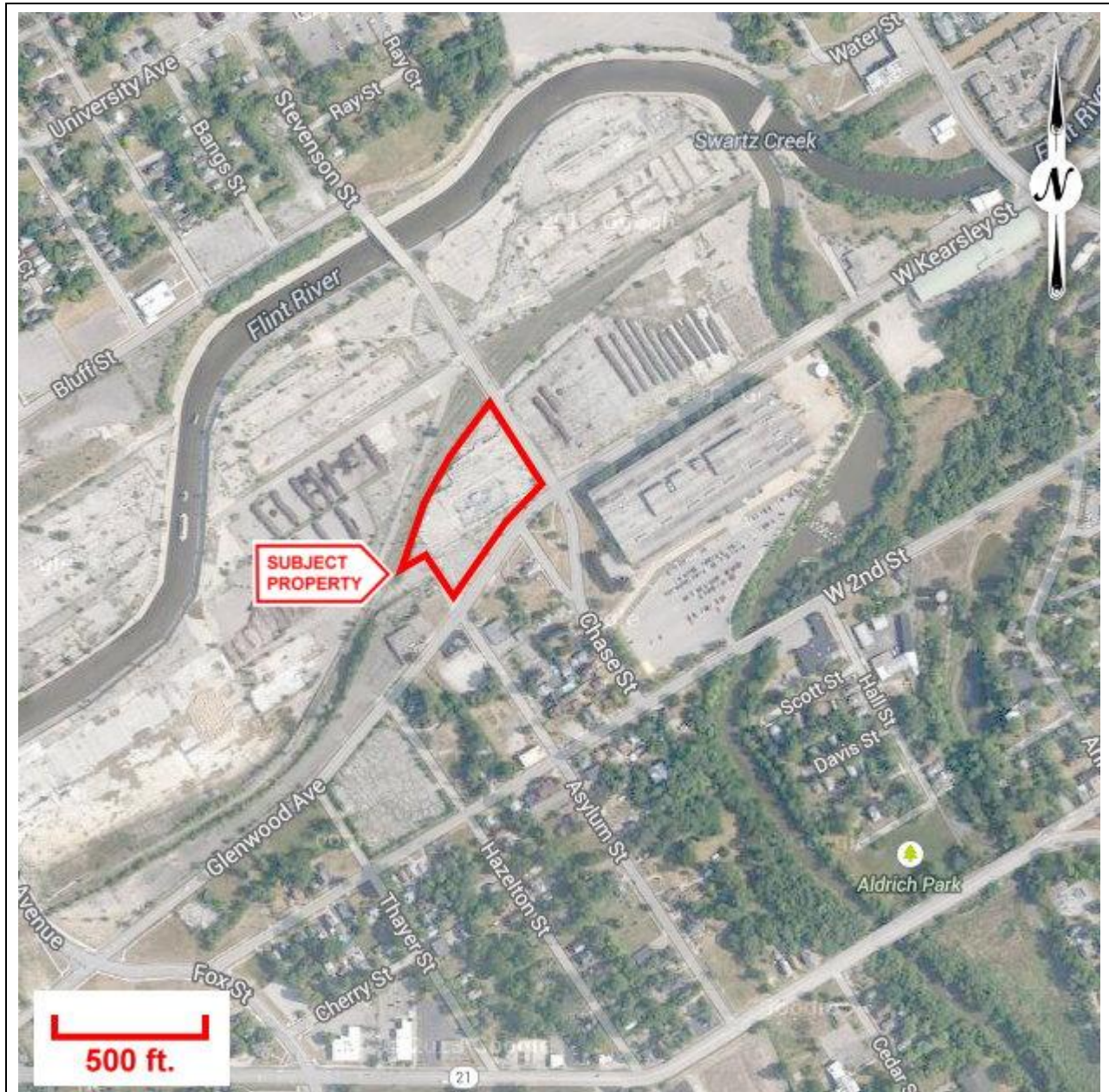
2014

SCALE

As Shown

PROJECT No.

11-4317-102



Source: United States Geological Survey

Property outline is approximate.



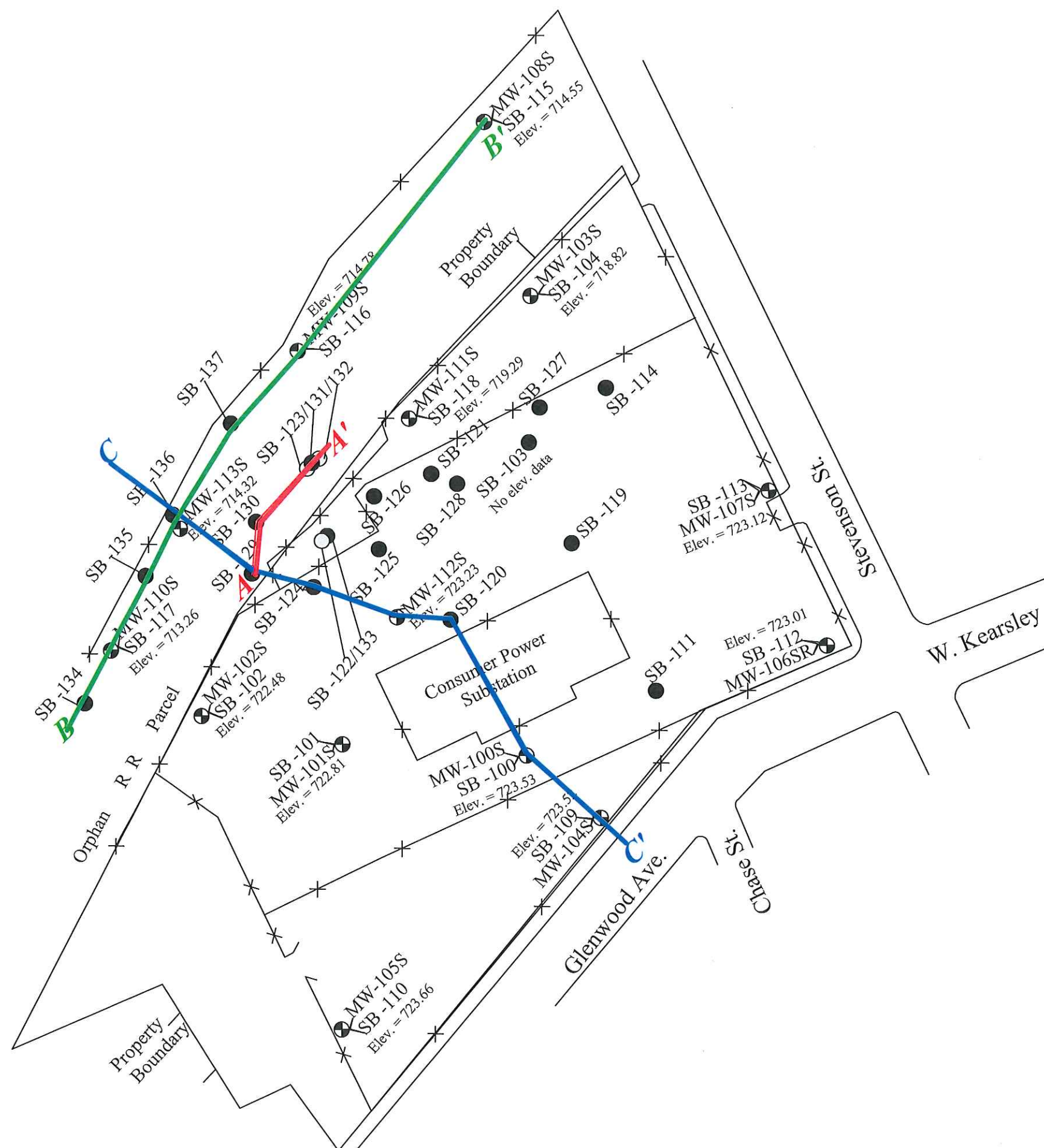
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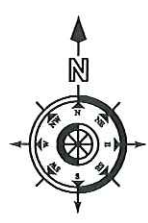
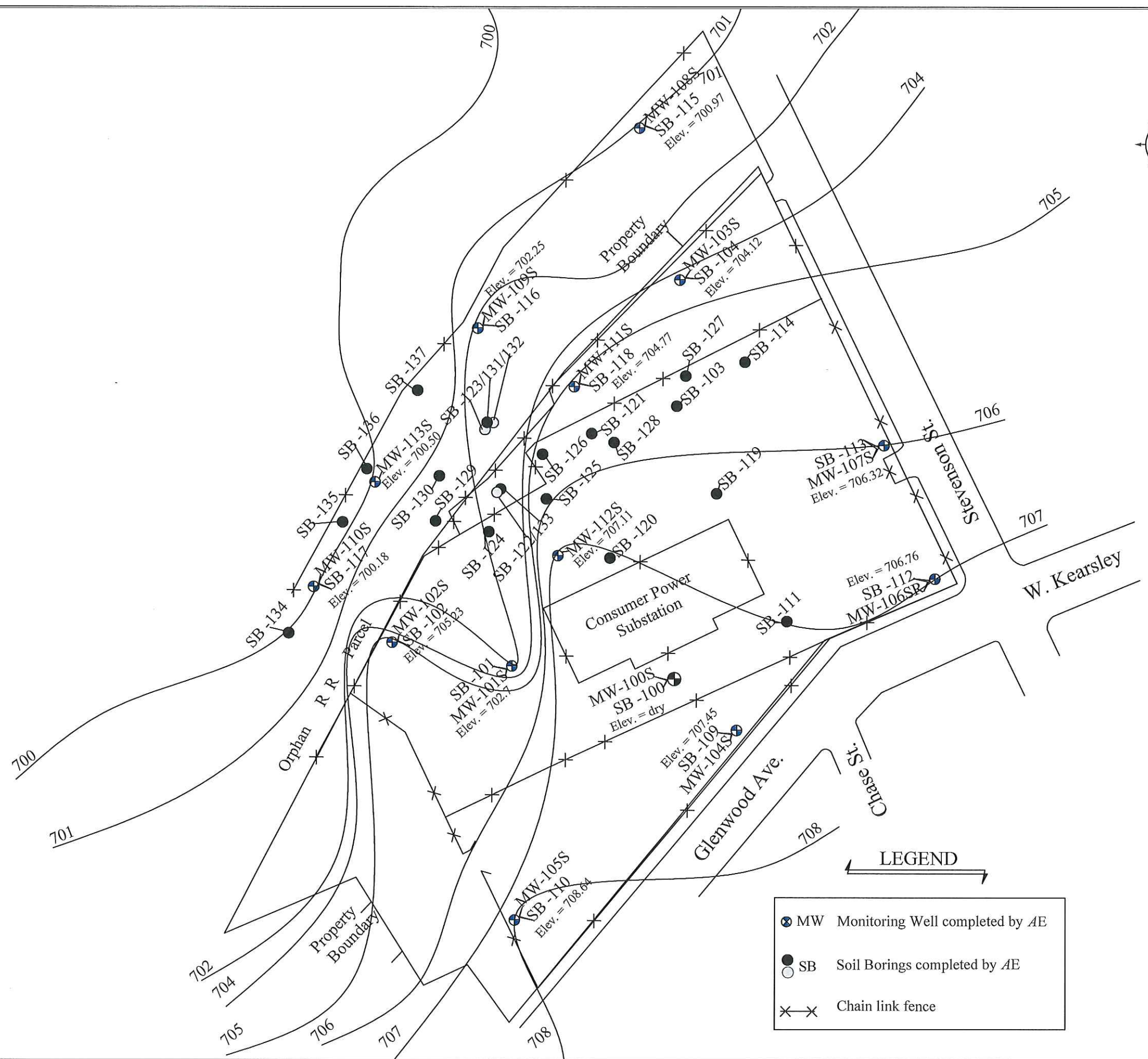
LEGEND

- ✕✕ Chain link fence
- MW Monitoring well
- SB Soil boring
- SB Multiple soil borings in one location

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

**Soil Boring and Well Location Map**  
 Racer Flint West - 12990  
 Flint West Industrial Land, Flint, MI

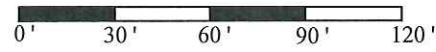
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<b>Applied EcoSystems, Inc.</b> Environmental Management, Consulting & Field Services G-4300 South Saginaw Street, Burton, Michigan 48529 Phone: 810.715.2525; Fax: 810.715.2526	<b>Groundwater Contour Map</b> <b>October Sampling Event</b> Racer Flint West - 12990 Flint West Industrial Land, Flint, MI	
	DATE: 2015 PROJECT: 11-4317-102	SCALE: As Shown FIGURE: 3

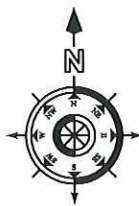
**LEGEND**

- MW Monitoring well
- SB Soil boring
- SB Multiple soil borings in one location
- Cross Section A - A'
- Cross Section B - B'
- Cross Section C - C'
- Trichloroethene - DW GRCC exceedance estimated boundary based on all groundwater sampling events
- 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)

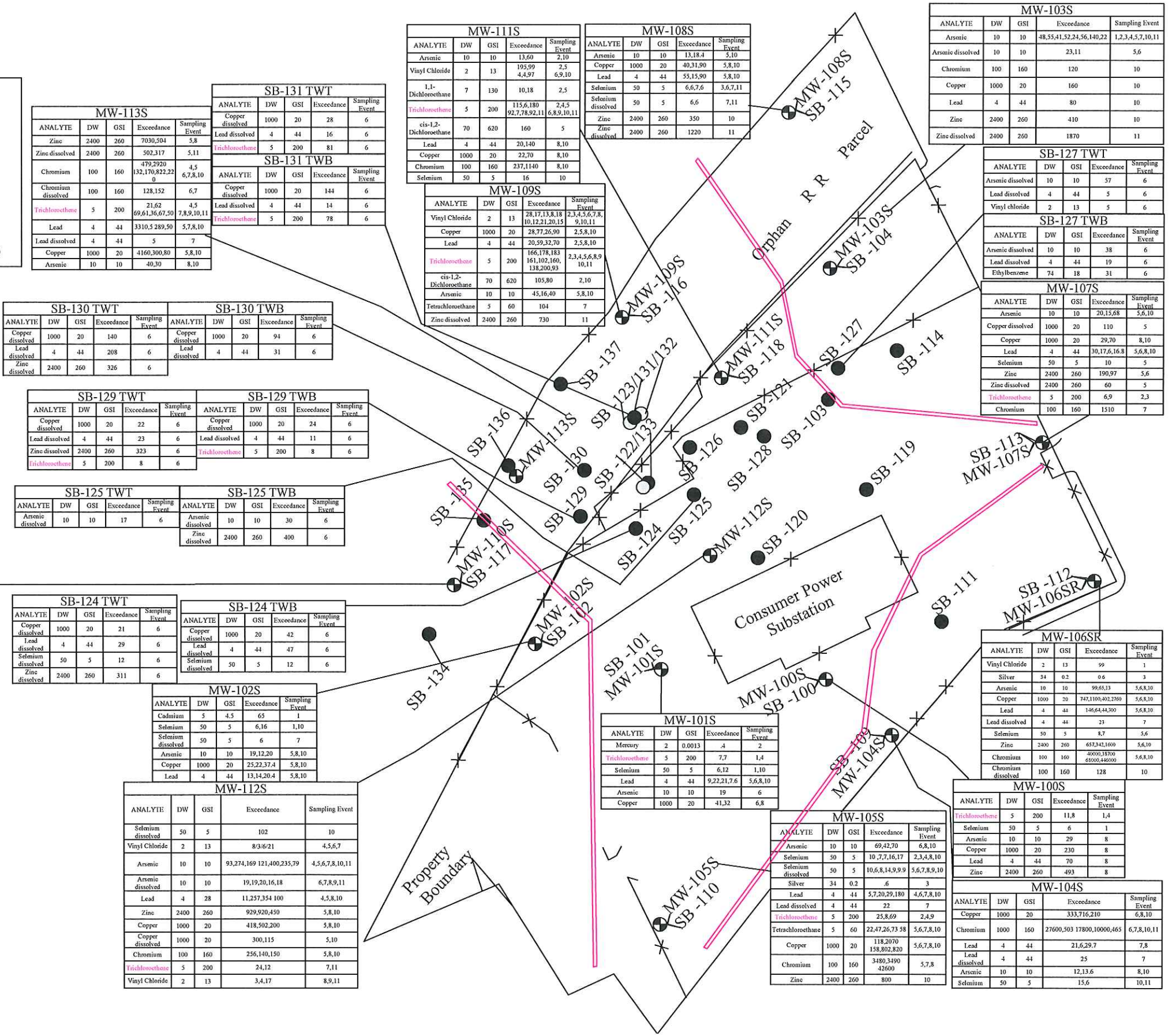


Approximate Scale in Feet

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



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	2,4
Copper dissolved	1000	20	278,059,236	5,6,8
Lead	4	44	28,90	6,10
Lead dissolved	4	44	16,19,61	2,4,5
Lead dissolved	4	44	28,17,249,20,3	6,7,8
Chromium	100	160	101	5
Zinc	2400	260	556	8
Zinc dissolved	2400	260	373	11



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	4,5
Chromium dissolved	100	160	132,170,822,22	6,7,8,10
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

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

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

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic dissolved	10	10	17	6
Arsenic dissolved	10	10	30	6
Zinc dissolved	2400	260	400	6

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

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

ANALYTE	DW	GSI	Exceedance	Sampling Event
Selenium dissolved	50	5	102	10
Vinyl Chloride	2	13	83/6/21	4,5,6,7
Arsenic	10	10	93,274,169,121,400,235,79	4,5,6,7,8,10,11
Arsenic dissolved	10	10	19,19,20,16,18	6,7,8,9,11
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	7,11
Vinyl Chloride	2	13	3,4,17	8,9,11

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

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic	10	10	13,18,4	5,10
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

ANALYTE	DW	GSI	Exceedance	Sampling Event
Vinyl Chloride	2	13	28,17,13,8,18	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	2,3,4,5,6,8,9,10,11
Trichloroethene	5	200	161,102,160,138,200,93	10,11
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

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic	10	10	48,55,41,52,24,56,140,22	1,2,3,4,5,7,10,11
Arsenic dissolved	10	10	23,11	5,6
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

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

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

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

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	6,8

ANALYTE	DW	GSI	Exceedance	Sampling Event
Arsenic	10	10	69,42,70	6,8,10
Selenium	50	5	10,7,7,16,17	2,3,4,8,10
Selenium dissolved	50	5	10,6,8,14,9,9,9	5,6,7,8,9,10
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	2,4,9
Tetrachloroethane	5	60	22,47,26,73,58	5,6,7,8,10
Copper	1000	20	118,2070	5,6,7,8,10
Copper	1000	20	158,802,820	5,6,7,8,10
Chromium	100	160	3480,3490	5,7,8
Zinc	2400	260	800	10

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	747,1109,402,280	5,6,8,10
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	657,142,1600	5,6,10
Chromium	100	160	4000,33700	5,6,8,10
Chromium dissolved	100	160	40000,446000	5,6,8,10

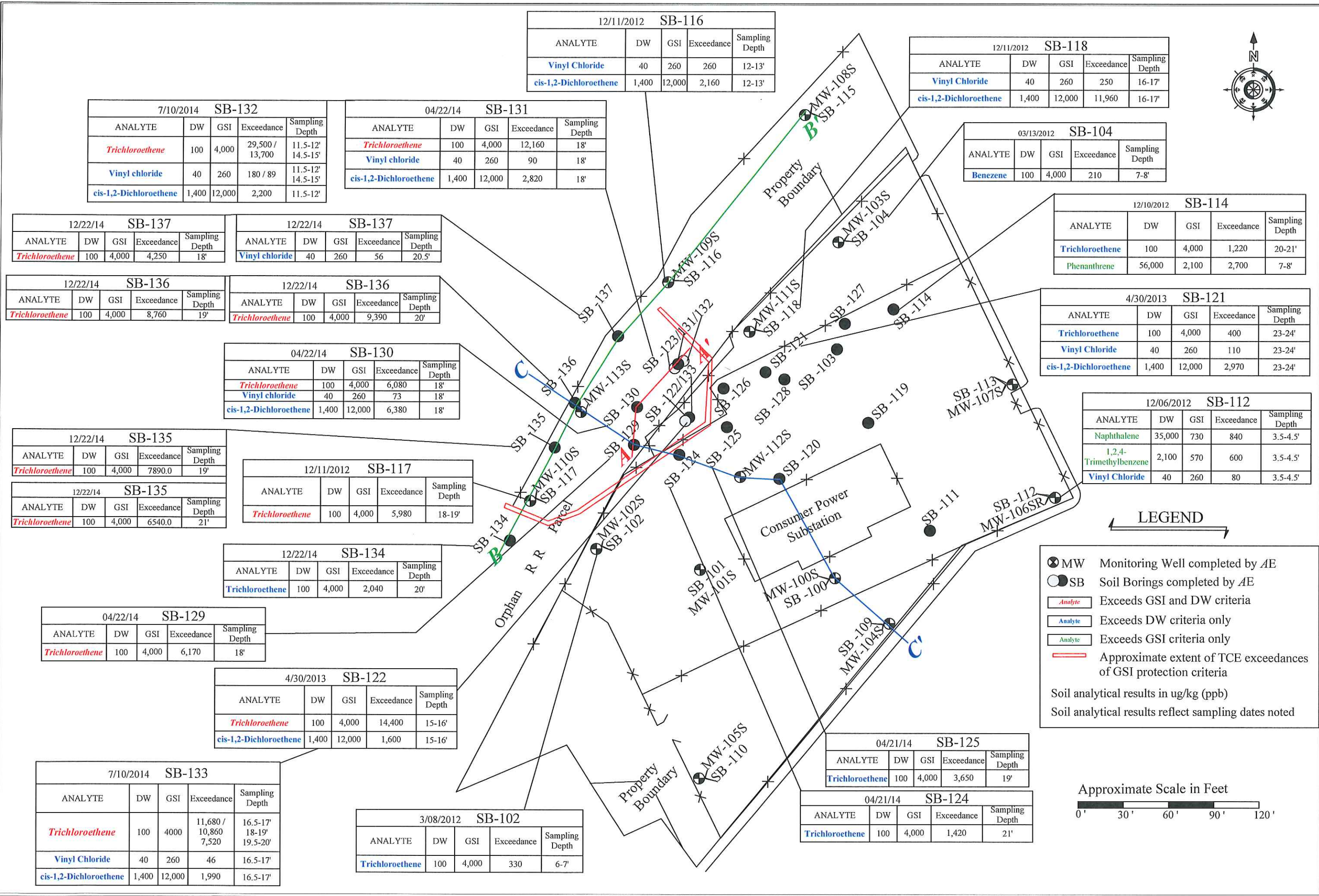
ANALYTE	DW	GSI	Exceedance	Sampling Event
Trichloroethene	5	200	11,8	1,4
Selenium	50	5	6	1
Arsenic	10	10	29	8
Copper	1000	20	230	8
Lead	4	44	70	8
Zinc	2400	260	493	8

ANALYTE	DW	GSI	Exceedance	Sampling Event
Copper	1000	20	333,716,210	6,8,10
Chromium	1000	160	27600,503,17800,10000,465	6,7,8,10,11
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

**SCALE:** As Shown  
**DATE:** 2012 / 2016  
**PROJECT:** 11-4317-102  
**FIGURE:** 4

**Summary of Drinking Water and Groundwater to Surface water Interface Exceedances in Groundwater**  
 2012 / 2016  
 Racer Flint West - 12990  
 Flint West Industrial Land, Flint, MI

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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
Benzene	100	4,000	210	7-8'

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

12/22/14 SB-137				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	4,250	18'

12/22/14 SB-137				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Vinyl chloride	40	260	56	20.5'

12/22/14 SB-136				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	8,760	19'

12/22/14 SB-136				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	9,390	20'

04/22/14 SB-130				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	6,080	18'
Vinyl chloride	40	260	73	18'
cis-1,2-Dichloroethene	1,400	12,000	6,380	18'

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

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

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

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'

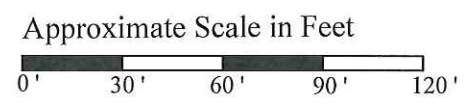
12/22/14 SB-135				
ANALYTE	DW	GSI	Exceedance	Sampling Depth
Trichloroethene	100	4,000	6540.0	21'

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

**LEGEND**

- MW Monitoring Well completed by AE
- SB Soil Borings completed by AE
- 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



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'

**Applied EcoSystems, Inc.**  
Environmental Management, Consulting & Field Services  
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Phone: 810.715.2525; Fax: 810.715.2526

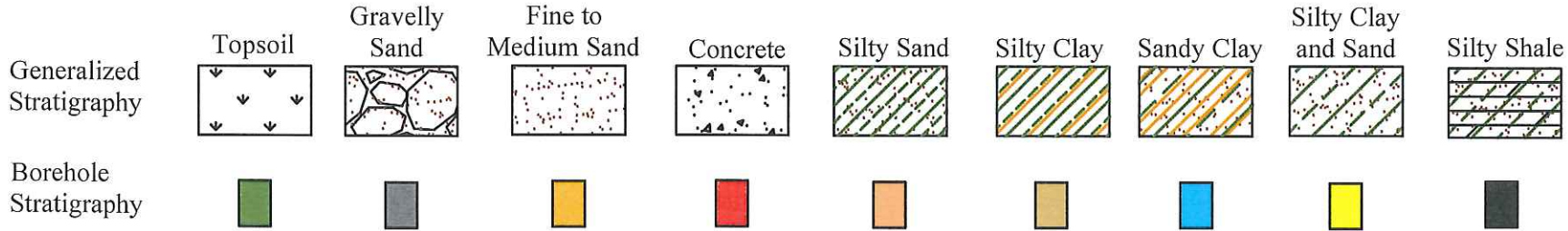
**Summary of Drinking Water and GSI Exceedances in Soil 2012 - 2014**  
Racer Flint West - 12990  
Flint West Industrial Land, Flint, MI

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

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

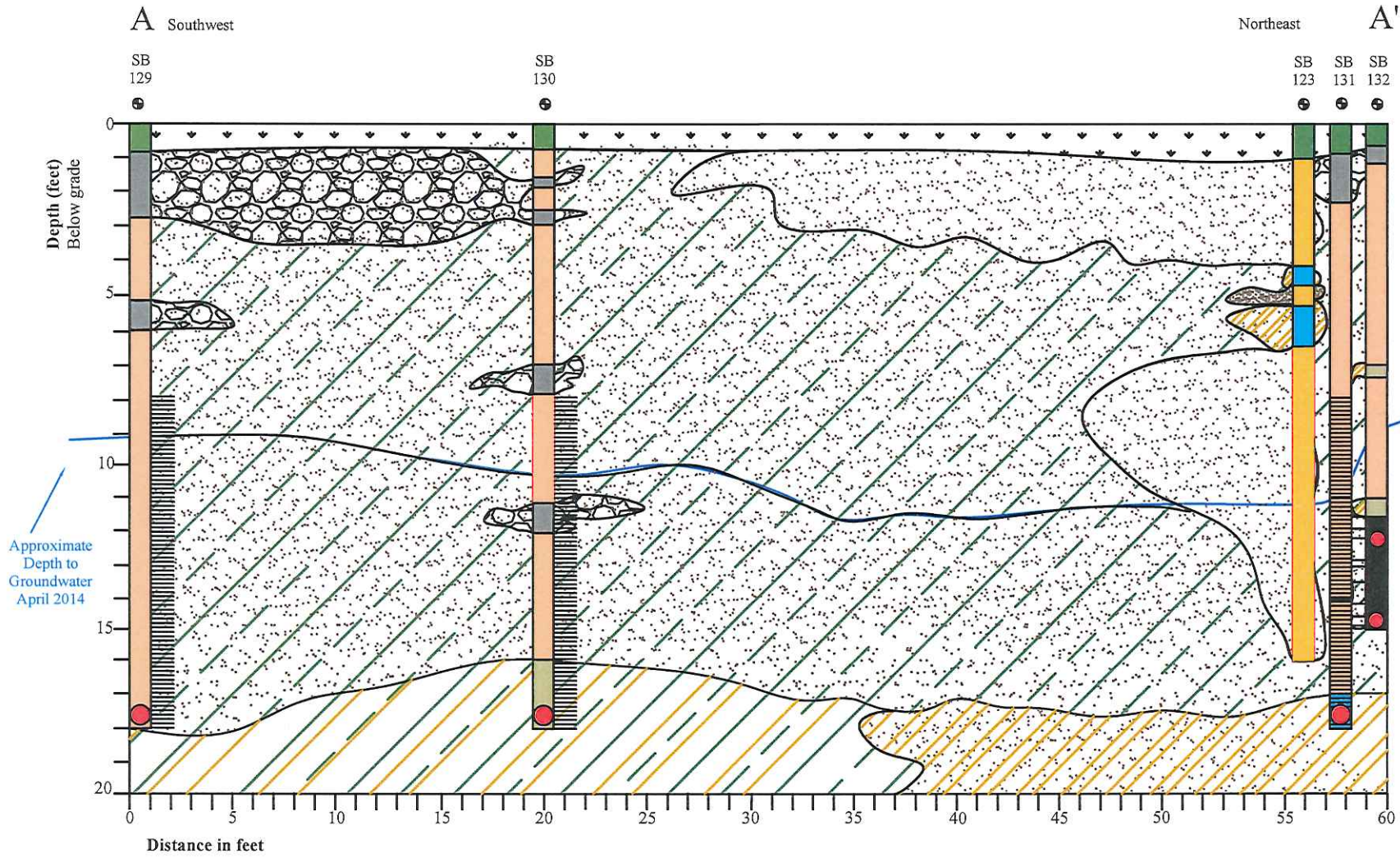
SCALE: None  
Attachment: 1

DATE: 2016  
PROJECT: 11-4317-102

**Cross Section Diagram Key**  
Racer Flint West - 12990  
Flint West Industrial Land, Flint, MI

**Applied EcoSystems, Inc.**  
Environmental Management, Consulting & Field Services  
G-4300 South Saginaw Street, Burton, Michigan 48529  
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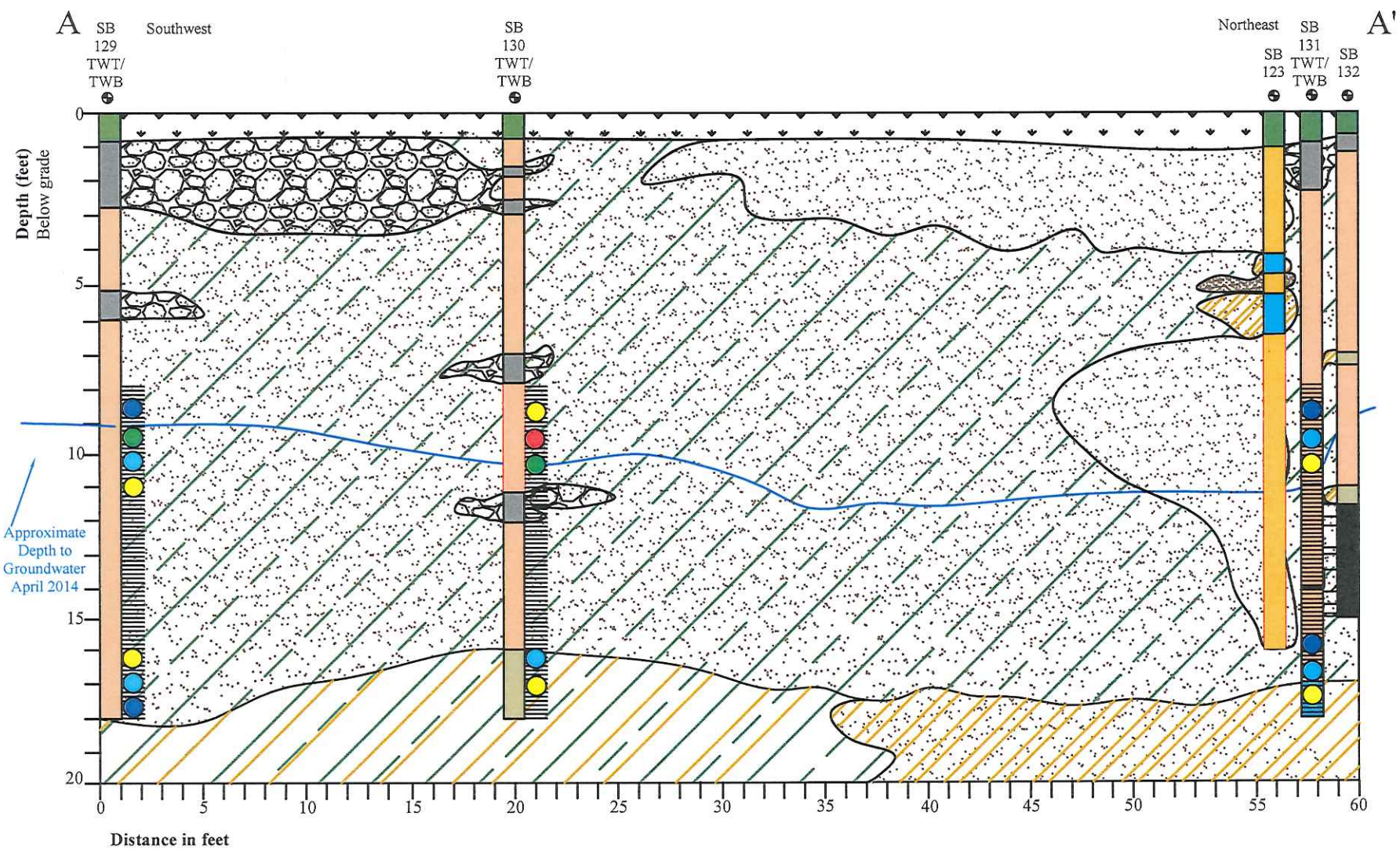


SCALE:	As Noted
DATE:	2016
PROJECT:	11-4317-102
ATTACHMENT:	1A (1)

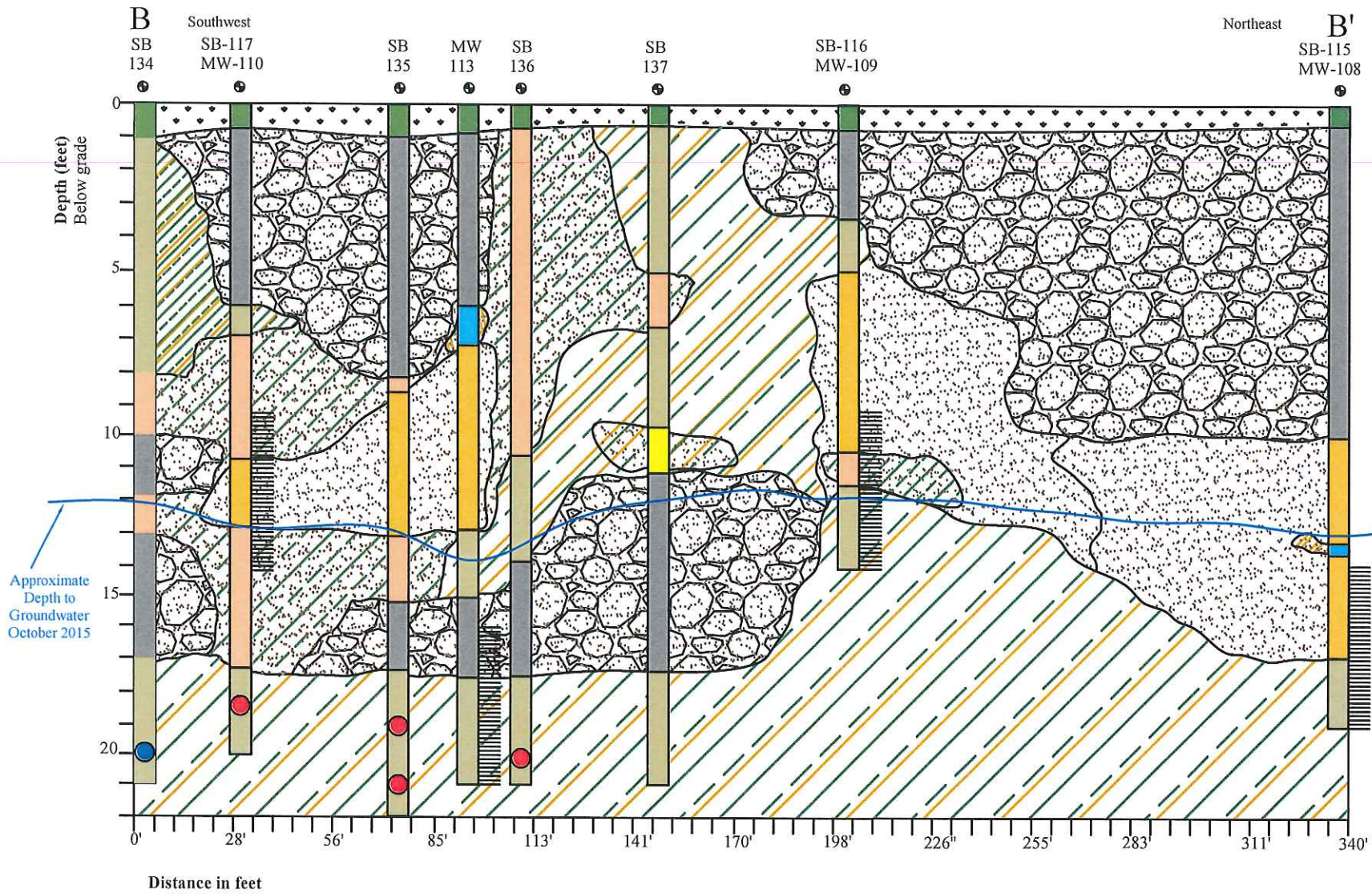
**Cross Section Diagram A - A'**  
**TCE Exceedances in Soil**  
 Racer Flint West - 12990  
 Flint West Industrial Land, Flint, MI

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





<b>SCALE:</b>	As Noted
<b>DATE:</b>	2015
<b>PROJECT:</b>	11-4317-102
<b>Cross Section Diagram A - A'</b>	
<b>Dissolved Metals and TCE Exceedances in Groundwater</b>	
Racer Flint West - 12990 Flint West Industrial Land, Flint, MI	
<b>Applied EcoSystems, Inc.</b>	
Environmental Management, Consulting & Field Services G-4300 South Saginaw Street, Burton, Michigan 48529 Phone: 810.715.2525; Fax: 810.715.2526	

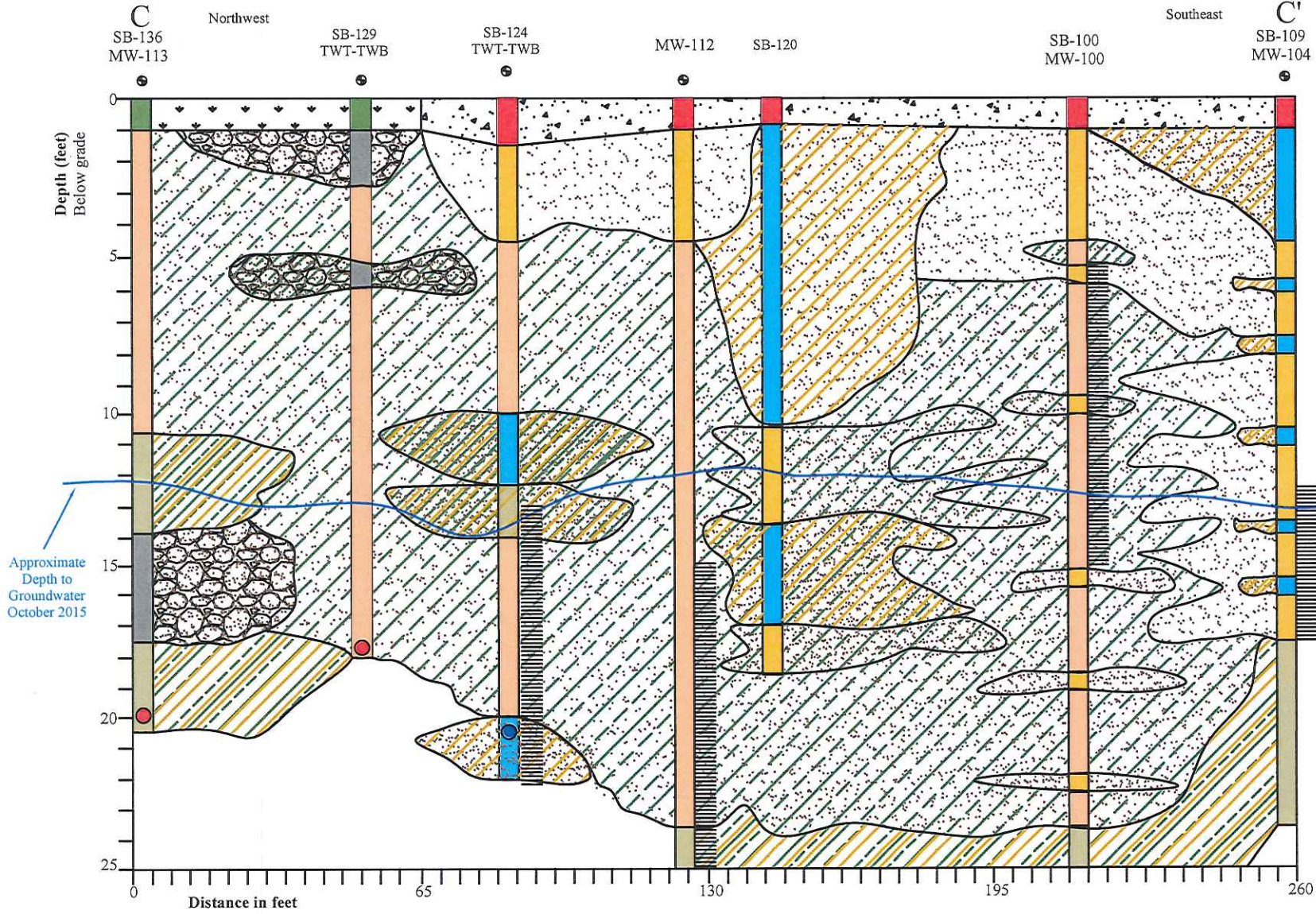


SCALE:	As Noted
DATE:	2015
PROJECT:	11-4317-102
ATTACHMENT:	1B (1)

**Cross Section Diagram B - B'**  
**TCE Exceedances in Soil**  
 Racer Flint West - 12990  
 Flint West Industrial Land, Flint, MI

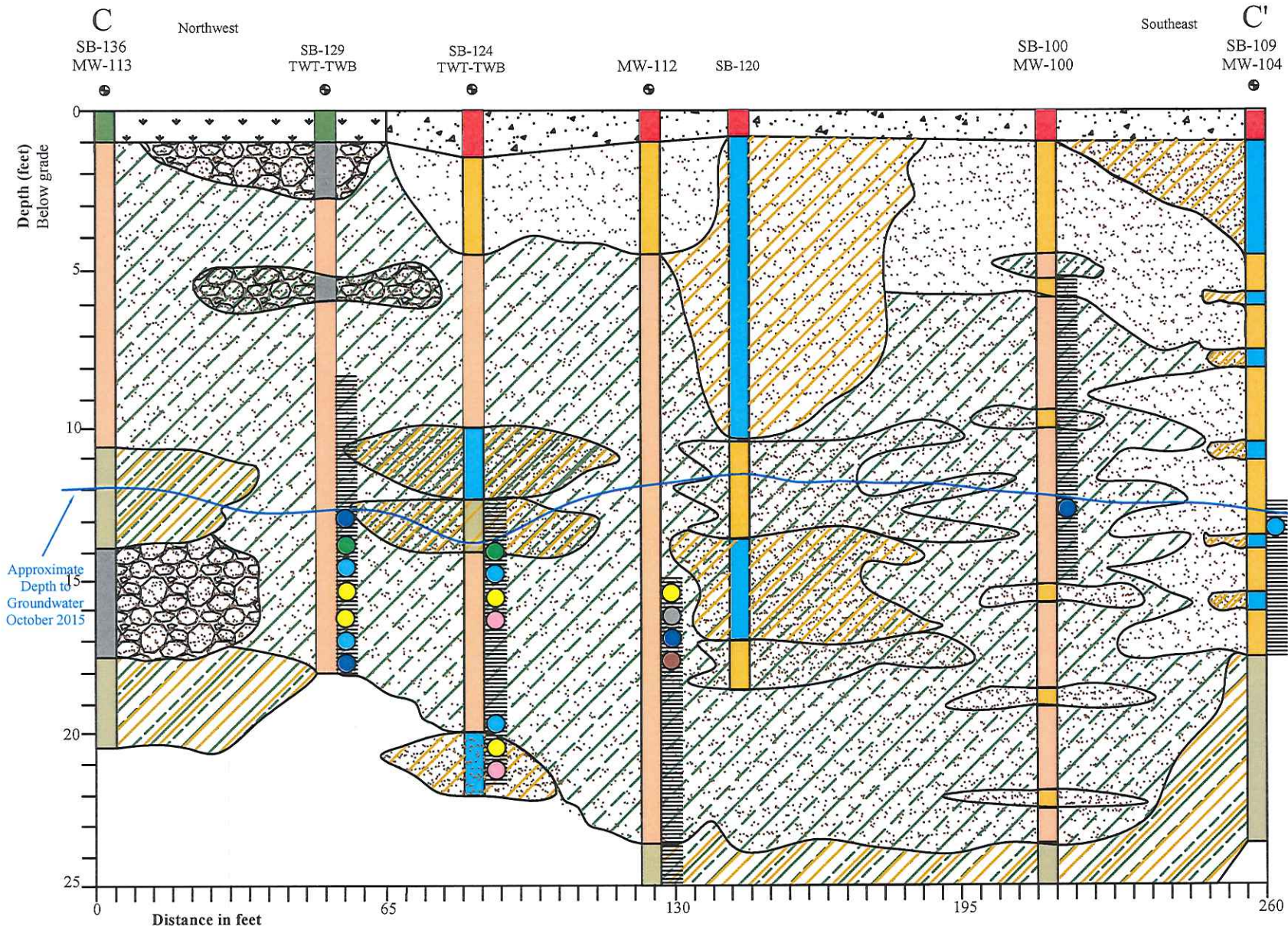
**Applied EcoSystems, Inc.**  
 Environmental Management, Consulting & Field Services  
 G-4300 South Saginaw Street, Burton, Michigan 48529  
 Phone: 810.715.2525; Fax: 810.715.2526





SCALE:	As Noted
DATE:	2016
PROJECT:	11-4317-102
<b>Cross Section Diagram C - C'</b> <b>TCE Exceedances in Soil</b> Racer Flint West - 12990 Flint West Industrial Land, Flint, MI	
<b>Applied EcoSystems, Inc.</b> Environmental Management, Consulting & Field Services G-4300 South Saginaw Street, Burton, Michigan 48529 Phone: 810.715.2525; Fax: 810.715.2526	
ATTACHMENT:	1C (1)





<b>Cross Section Diagram C - C'</b> <b>Dissolved Metals and TCE Exceedances in Groundwater</b> Racer Flint West - 12990 Flint West Industrial Land, Flint, MI	SCALE: As Noted
	ATTACHMENT: 1C (2)
DATE: 2016	PROJECT: 11-4317-102
<b>Applied EcoSystems, Inc.</b> Environmental Management, Consulting & Field Services G-4300 South Saginaw Street, Burton, Michigan 48529 Phone: 810.715.2525; Fax: 810.715.2526	

ATTACHMENT #2: GROUNDWATER ANALYTICAL TABLES

GROUNDWATER ANALYTICAL DATA  
RACER - Flint West #12990

ANALYTE (ug/L)	Sample ID	Date Collected	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
Arsenic (dissolved)	10.00	10.00				11.00			4.00						21.00			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

ANALYTE (ug/L)	Sample ID	Date Collected	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			
																																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																		
Methyl iodide	NC	NC																						0.86	0.4									
Carbon disulfide	800	NC																						11.6	8.6									
2 Butanone (MEK)	13,000	2,200		0.73	0.86		0.41	0.83	0.78	0.94					2.98																			
Chloromethane	260	NC																					0.33		0.61									
Vinyl Chloride	2.0	13								0.64		18	4	6	0.45											2		2	4					
Chloroethane	430	1,100											0.6	1.13																				
Trichlorofluoromethane	2,600	NA																																
1,1-Dichloroethene	7.0	130										4	1	0.40																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													2.00	2.00					
cis-1,2-Dichloroethene	70	620								3		59	46	2	26											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																								
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																								
Tetrachloroethene	5.0	60							47																									
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							0.07	0.07																								
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
- 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											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				
Carbon tetrachloride	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 <span style="border: 1px solid black; padding: 0 2px;">G</span>
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

ANALYTE (ug/L)	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	
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	
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	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

ANALYTE (ug/L)	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
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	10000000000				na									3.88			
2-Hexanone	1000	10000000000				na									12			
Carbon tetrachloride	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												
Total Xylenes	280	41				na									0.17			
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
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

ANALYTE (mg/L)	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	
	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		

ANALYTE (ug/L)	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	
	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	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 <b>G</b>
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										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							
Tetrachloroethene	5.0	60	DRY					58						0.37			
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



ATTACHMENT #3: GROUNDWATER ANALYTICAL LABORATORY REPORT



# Analytical Laboratory Report

Report ID: S73364.01(02)  
Generated on 05/23/2016

Report to

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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

Report produced by

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

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

Contacts for report questions:  
Kevin George (kgeorge@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

Report Summary

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Lab Sample ID(s): S73364.01-S73364.07  
Project: Racer Flint West  
Collected Date: 05/11/2016  
Submitted Date/Time: 05/12/2016 12:20  
Sampled by: Tyler Watson  
P.O. #: PO219269

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Glossary of Abbreviations (Page 3)  
Method Summary (Page 4)  
Sample Summary (Page 5)

Maya Murshak  
Technical Director



# Analytical Laboratory Report

## **General Report Notes**

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Results relate only to items tested as received by 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.

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

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

## **Report Narrative**

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There is no additional narrative for this analytical report



# Analytical Laboratory Report

## Laboratory Certifications

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

## 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



# Analytical Laboratory Report

## Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
SM3500-Cr B	Standard Method 3500 Cr B 20th Edition
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996



# Analytical Laboratory Report

## Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S73364.01	MW-101	Groundwater	05/11/16 11:15
S73364.02	MW-120	Groundwater	05/11/16 12:10
S73364.03	MW-113	Groundwater	05/11/16 13:50
S73364.04	MW-112	Groundwater	05/11/16 14:45
S73364.05	MW-100	Groundwater	05/11/16 15:50
S73364.06	Field Blank	Liquid	05/11/16 15:00
S73364.07	Trip Blank	Liquid	05/11/16 00:01



# Analytical Laboratory Report

Lab Sample ID: S73364.01  
 Sample Tag: MW-101  
 Collected Date/Time: 05/11/2016 11:15  
 Matrix: Groundwater  
 COC Reference: 81596

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.5	IR
1	125ml Plastic	HNO3	Yes	5.5	IR
4	40ml Glass	HCL	Yes	5.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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### Extraction / Prep.

Metal Digestion	Completed			SW3015A	05/20/16 13:30	PER		
Metal Digestion	Completed			SW3015A	05/20/16 13:30	PER		
pH check for VOCs	<2	STD Units		N/A	05/23/16 11:00	JML		

### Inorganics

Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	05/12/16 13:00	JKB	0.003	1H
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### Metals

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	05/20/16 15:43	PER	0.00043	2
Arsenic	0.003	mg/L	0.002	E200.8	05/20/16 15:40	PER	0.00043	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:43	PER	0.00021	2
Chromium	0.013	mg/L	0.005	E200.8	05/20/16 15:40	PER	0.00021	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:43	PER	0.00019	2
Copper	0.007	mg/L	0.005	E200.8	05/20/16 15:40	PER	0.00019	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	05/20/16 15:43	PER	0.000090	2
Lead	0.003	mg/L	0.003	E200.8	05/20/16 15:40	PER	0.000090	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:43	PER	0.0024	2
Selenium	Not detected	mg/L	0.005	E200.8	05/20/16 15:40	PER	0.0024	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:43	PER	0.00064	2
Zinc	0.022	mg/L	0.005	E200.8	05/20/16 15:40	PER	0.00064	

### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	05/21/16 01:35	JGH	0.50	
Acetone	1.62	ug/L	50	SW8260B	05/21/16 01:35	JGH	0.56	JB
Methyl iodide	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	05/21/16 01:35	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	05/21/16 01:35	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.29	

1-Filtered in lab H-Sample submitted and run outside of holding time

2-Filtered and preserved in lab

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



# Analytical Laboratory Report

Lab Sample ID: S73364.01 (continued)

Sample Tag: MW-101

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	05/21/16 01:35	JGH	1.3	
Chloroform	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	05/21/16 01:35	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	05/21/16 01:35	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.16	
Trichloroethene	2	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	05/21/16 01:35	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:35	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.19	



# Analytical Laboratory Report

Lab Sample ID: S73364.01 (continued)

Sample Tag: MW-101

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	05/21/16 01:35	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73364.02  
 Sample Tag: MW-120  
 Collected Date/Time: 05/11/2016 12:10  
 Matrix: Groundwater  
 COC Reference: 81596

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.5	IR
1	125ml Plastic	HNO3	Yes	5.5	IR
4	40ml Glass	HCL	Yes	5.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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### Extraction / Prep.

Metal Digestion	Completed			SW3015A	05/20/16 13:30	PER		
Metal Digestion	Completed			SW3015A	05/20/16 13:30	PER		
pH check for VOCs	<2	STD Units		N/A	05/23/16 11:00	JML		

### Inorganics

Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	05/12/16 13:05	JKB	0.003	1H
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### Metals

Arsenic, Dissolved	0.018	mg/L	0.002	E200.8	05/20/16 15:46	PER	0.00043	2
Arsenic	0.079	mg/L	0.002	E200.8	05/20/16 15:44	PER	0.00043	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:46	PER	0.00021	2
Chromium	Not detected	mg/L	0.005	E200.8	05/20/16 15:44	PER	0.00021	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:46	PER	0.00019	2
Copper	Not detected	mg/L	0.005	E200.8	05/20/16 15:44	PER	0.00019	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	05/20/16 15:46	PER	0.000090	2
Lead	0.001	mg/L	0.003	E200.8	05/20/16 15:44	PER	0.000090	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:46	PER	0.0024	2
Selenium	Not detected	mg/L	0.005	E200.8	05/20/16 15:44	PER	0.0024	
Zinc, Dissolved	0.005	mg/L	0.005	E200.8	05/20/16 15:46	PER	0.00064	2
Zinc	0.007	mg/L	0.005	E200.8	05/20/16 15:44	PER	0.00064	

### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	05/21/16 01:57	JGH	0.50	
Acetone	4.21	ug/L	50	SW8260B	05/21/16 01:57	JGH	0.56	JB
Methyl iodide	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	05/21/16 01:57	JGH	0.57	
2-Butanone (MEK)	1.36	ug/L	25	SW8260B	05/21/16 01:57	JGH	0.26	JB
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.26	
Vinyl chloride	17	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.32	
Chloroethane	2.59	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.34	J
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.33	
1,1-Dichloroethene	1	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.27	

1-Filtered in lab H-Sample submitted and run outside of holding time

2-Filtered and preserved in lab

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

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



# Analytical Laboratory Report

Lab Sample ID: S73364.02 (continued)

Sample Tag: MW-120

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Methylene chloride	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.29	
trans-1,2-Dichloroethene	0.36	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.20	J
1,1-Dichloroethane	1	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.20	
cis-1,2-Dichloroethene	3	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	05/21/16 01:57	JGH	1.3	
Chloroform	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.28	
4-Methyl-2-pentanone (MIBK)	0.30	ug/L	50	SW8260B	05/21/16 01:57	JGH	0.14	J
2-Hexanone	0.47	ug/L	50	SW8260B	05/21/16 01:57	JGH	0.29	J
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.16	
Trichloroethene	12	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	05/21/16 01:57	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.22	
1,1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:57	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.21	

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



# Analytical Laboratory Report

Lab Sample ID: S73364.02 (continued)

Sample Tag: MW-120

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	05/21/16 01:57	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73364.03  
 Sample Tag: MW-113  
 Collected Date/Time: 05/11/2016 13:50  
 Matrix: Groundwater  
 COC Reference: 81596

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.5	IR
1	125ml Plastic	HNO3	Yes	5.5	IR
4	40ml Glass	HCL	Yes	5.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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### Extraction / Prep.

Metal Digestion	Completed			SW3015A	05/20/16 13:30	PER		
Metal Digestion	Completed			SW3015A	05/20/16 13:30	PER		
pH check for VOCs	<2	STD Units		N/A	05/23/16 11:00	JML		

### Inorganics

Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	05/12/16 13:10	JKB	0.003	1
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	05/12/16 13:25	JKB	0.003	

### Metals

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	05/20/16 15:48	PER	0.00043	2
Arsenic	Not detected	mg/L	0.002	E200.8	05/20/16 15:47	PER	0.00043	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:48	PER	0.00021	2
Chromium	0.003	mg/L	0.005	E200.8	05/20/16 15:47	PER	0.00021	b
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:48	PER	0.00019	2
Copper	0.003	mg/L	0.005	E200.8	05/20/16 15:47	PER	0.00019	b
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	05/20/16 15:48	PER	0.000090	2
Lead	Not detected	mg/L	0.003	E200.8	05/20/16 15:47	PER	0.000090	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:48	PER	0.0024	2
Selenium	Not detected	mg/L	0.005	E200.8	05/20/16 15:47	PER	0.0024	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:48	PER	0.00064	2
Zinc	0.007	mg/L	0.005	E200.8	05/20/16 15:47	PER	0.00064	

### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	05/21/16 02:19	JGH	0.50	
Acetone	2.10	ug/L	50	SW8260B	05/21/16 02:19	JGH	0.56	JB
Methyl iodide	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	05/21/16 02:19	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	05/21/16 02:19	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.33	

1-Filtered in lab

2-Filtered and preserved in lab

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

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



# Analytical Laboratory Report

Lab Sample ID: S73364.03 (continued)

Sample Tag: MW-113

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	05/21/16 02:19	JGH	1.3	
Chloroform	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	05/21/16 02:19	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	05/21/16 02:19	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.16	
Trichloroethene	0.26	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.23	J
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	05/21/16 02:19	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:19	JGH	0.22	

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



# Analytical Laboratory Report

Lab Sample ID: S73364.03 (continued)

Sample Tag: MW-113

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Hexachloroethane	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	05/21/16 02:19	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73364.04  
 Sample Tag: MW-112  
 Collected Date/Time: 05/11/2016 14:45  
 Matrix: Groundwater  
 COC Reference: 81596

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.5	IR
1	125ml Plastic	HNO3	Yes	5.5	IR
4	40ml Glass	HCL	Yes	5.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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### Extraction / Prep.

Metal Digestion	Completed			SW3015A	05/20/16 13:30	PER		
Metal Digestion	Completed			SW3015A	05/20/16 13:30	PER		
pH check for VOCs	<2	STD Units		N/A	05/23/16 11:00	JML		

### Inorganics

Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	05/12/16 13:15	JKB	0.003	1
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### Metals

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	05/20/16 15:55	PER	0.00043	2
Arsenic	0.003	mg/L	0.002	E200.8	05/20/16 15:51	PER	0.00043	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:55	PER	0.00021	2
Chromium	0.077	mg/L	0.005	E200.8	05/20/16 15:51	PER	0.00021	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:55	PER	0.00019	2
Copper	0.007	mg/L	0.005	E200.8	05/20/16 15:51	PER	0.00019	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	05/20/16 15:55	PER	0.000090	2
Lead	0.002	mg/L	0.003	E200.8	05/20/16 15:51	PER	0.000090	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:55	PER	0.0024	2
Selenium	Not detected	mg/L	0.005	E200.8	05/20/16 15:51	PER	0.0024	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:55	PER	0.00064	2
Zinc	0.012	mg/L	0.005	E200.8	05/20/16 15:51	PER	0.00064	

### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	05/21/16 02:41	JGH	0.50	
Acetone	2.73	ug/L	50	SW8260B	05/21/16 02:41	JGH	0.56	JB
Methyl iodide	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	05/21/16 02:41	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	05/21/16 02:41	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.27	

1-Filtered in lab

2-Filtered and preserved in lab

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

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



# Analytical Laboratory Report

Lab Sample ID: S73364.04 (continued)

Sample Tag: MW-112

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Methylene chloride	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	05/21/16 02:41	JGH	1.3	
Chloroform	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	05/21/16 02:41	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	05/21/16 02:41	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	05/21/16 02:41	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 02:41	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.47	



# Analytical Laboratory Report

Lab Sample ID: S73364.04 (continued)

Sample Tag: MW-112

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	05/21/16 02:41	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73364.05  
 Sample Tag: MW-100  
 Collected Date/Time: 05/11/2016 15:50  
 Matrix: Groundwater  
 COC Reference: 81596

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	5.5	IR
1	125ml Plastic	HNO3	Yes	5.5	IR
4	40ml Glass	HCL	Yes	5.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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### Extraction / Prep.

Metal Digestion	Completed			SW3015A	05/20/16 13:30	PER		
Metal Digestion	Completed			SW3015A	05/20/16 13:30	PER		
pH check for VOCs	<2	STD Units		N/A	05/23/16 11:00	JML		

### Inorganics

Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	05/12/16 13:20	JKB	0.003	1
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### Metals

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	05/20/16 15:57	PER	0.00043	2
Arsenic	Not detected	mg/L	0.002	E200.8	05/20/16 15:56	PER	0.00043	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:57	PER	0.00021	2
Chromium	0.005	mg/L	0.005	E200.8	05/20/16 15:56	PER	0.00021	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:57	PER	0.00019	2
Copper	0.004	mg/L	0.005	E200.8	05/20/16 15:56	PER	0.00019	b
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	05/20/16 15:57	PER	0.000090	2
Lead	0.002	mg/L	0.003	E200.8	05/20/16 15:56	PER	0.000090	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	05/20/16 15:57	PER	0.0024	2
Selenium	Not detected	mg/L	0.005	E200.8	05/20/16 15:56	PER	0.0024	
Zinc, Dissolved	0.021	mg/L	0.005	E200.8	05/20/16 15:57	PER	0.00064	2
Zinc	0.011	mg/L	0.005	E200.8	05/20/16 15:56	PER	0.00064	

### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	05/21/16 03:03	JGH	0.50	
Acetone	2.72	ug/L	50	SW8260B	05/21/16 03:03	JGH	0.56	JB
Methyl iodide	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	05/21/16 03:03	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	05/21/16 03:03	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.27	

1-Filtered in lab

2-Filtered and preserved in lab

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

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



# Analytical Laboratory Report

Lab Sample ID: S73364.05 (continued)

Sample Tag: MW-100

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Methylene chloride	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.20	
cis-1,2-Dichloroethene	0.34	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.26	J
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	05/21/16 03:03	JGH	1.3	
Chloroform	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	05/21/16 03:03	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	05/21/16 03:03	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.16	
Trichloroethene	4	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	05/21/16 03:03	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 03:03	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.21	

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



# Analytical Laboratory Report

Lab Sample ID: S73364.05 (continued)

Sample Tag: MW-100

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	05/21/16 03:03	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73364.06  
 Sample Tag: Field Blank  
 Collected Date/Time: 05/11/2016 15:00  
 Matrix: Liquid  
 COC Reference: 81596

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
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**Extraction / Prep.**

pH check for VOCs	<2	STD Units		N/A	05/23/16 11:00	JML	
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**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW8260B	05/21/16 00:51	JGH 0.50	
Acetone	1.98	ug/L	50	SW8260B	05/21/16 00:51	JGH 0.56	JB
Methyl iodide	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH 0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH 0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	05/21/16 00:51	JGH 0.57	
2-Butanone (MEK)	0.37	ug/L	25	SW8260B	05/21/16 00:51	JGH 0.26	JB
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH 0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH 0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH 0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH 0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH 0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	05/21/16 00:51	JGH 1.3	
Chloroform	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	05/21/16 00:51	JGH 0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	05/21/16 00:51	JGH 0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.20	
Benzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.16	
Trichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH 0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.19	
Toluene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH 0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH 0.24	

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



# Analytical Laboratory Report

Lab Sample ID: S73364.06 (continued)

Sample Tag: Field Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	05/21/16 00:51	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 00:51	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	05/21/16 00:51	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73364.07  
 Sample Tag: Trip Blank  
 Collected Date/Time: 05/11/2016 00:01  
 Matrix: Liquid  
 COC Reference: 81596

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
----------	---------	-------	----	--------	---------------	----------	-------

**Extraction / Prep.**

pH check for VOCs	<2	STD Units		N/A	05/23/16 11:00	JML	
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**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW8260B	05/21/16 01:13	JGH	0.50
Acetone	Not detected	ug/L	50	SW8260B	05/21/16 01:13	JGH	0.56
Methyl iodide	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.25
Carbon disulfide	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.24
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.19
Acrylonitrile	Not detected	ug/L	2	SW8260B	05/21/16 01:13	JGH	0.57
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	05/21/16 01:13	JGH	0.26
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.50
Chloromethane	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.26
Vinyl chloride	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.31
Bromomethane	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.32
Chloroethane	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.34
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.33
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.27
Methylene chloride	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.29
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.20
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.20
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.26
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	05/21/16 01:13	JGH	1.3
Chloroform	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.21
Bromochloromethane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.38
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.28
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	05/21/16 01:13	JGH	0.14
2-Hexanone	Not detected	ug/L	50	SW8260B	05/21/16 01:13	JGH	0.29
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.20
Benzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.20
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.16
Trichloroethene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.23
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.20
Bromodichloromethane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.23
Dibromomethane	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.20
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.19
Toluene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.25
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.25
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.28
Tetrachloroethene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.20
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.20
Dibromochloromethane	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.24
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.30



# Analytical Laboratory Report

Lab Sample ID: S73364.07 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Chlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	05/21/16 01:13	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	05/21/16 01:13	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	05/21/16 01:13	JGH	0.16	



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

C.O.C. PAGE # \_\_\_\_\_ OF \_\_\_\_\_

81596

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME: *Mike Smith*  
 COMPANY: *Applied Ecosystem, Inc*  
 ADDRESS: *G-4300 S. Saginaw St.*  
 CITY: *Burton* STATE: *MI* ZIP CODE: *48527*  
 PHONE NO.: *810-715-2525* FAX NO.: *810-715-2526* P.O. NO.:  
 E-MAIL ADDRESS: *ae\_mds@yahoo.com* QUOTE NO.:

CONTACT NAME: \_\_\_\_\_  SAME  
 COMPANY: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_  
 PHONE NO.: \_\_\_\_\_ E-MAIL ADDRESS: \_\_\_\_\_

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME: *Racer Flint West* SAMPLER(S) - PLEASE PRINT/SIGN NAME: *Tyler Watson / Tyler Watson*  
 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

# Containers & Preservatives

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER	VOC's	Total Metals	Dissolved Metals	Cr VI	Certifications		Project Locations		Special Instructions	
	DATE	TIME															<input type="checkbox"/> OHIO VAP	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> DoD	<input type="checkbox"/> NPDES		<input type="checkbox"/> Detroit
<i>73364.01</i>	<i>5/11</i>		<i>MW-101</i>	<i>SW</i>	<i>6</i>		<i>X</i>	<i>X</i>					<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>					<i>* Metals</i>	
<i>.02</i>			<i>MW-120</i>																			<i>• Arsenic</i>
<i>.03</i>			<i>MW-113</i>																			<i>• Zinc</i>
<i>.04</i>			<i>MW-112</i>																			<i>• Lead</i>
<i>.05</i>			<i>MW-100</i>																			<i>• Copper</i>
<i>.06</i>	<i>5/11</i>		<i>Field Blank</i>										<i>X</i>									<i>• Selenium</i>
<i>.07</i>	<i>5/11</i>		<i>Trip Blank</i>										<i>X</i>									<i>• Chromium</i>

RELINQUISHED BY: *Tyler Watson*  Sampler DATE: *5/12/16* TIME: \_\_\_\_\_  
 RECEIVED BY: *John Kelly* DATE: *5/12/16* TIME: *11:00*  
 RELINQUISHED BY: *John Kelly* DATE: *5/10/16* TIME: *12:20*  
 RECEIVED BY: *John Kelly* DATE: *5/10/16* TIME: *12:20*

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_ NOTES: TEMP. ON ARRIVAL *5.5*  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_

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



# Analytical Laboratory Report

Report ID: S73792.01(01)  
Generated on 06/13/2016

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

Report produced by

---

Merit Laboratories, Inc.  
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Contacts for report questions:  
Kevin George (kgeorge@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

Report Summary

---

Lab Sample ID(s): S73792.01-S73792.08  
Project: Racer Flint West  
Collected Date: 06/01/2016  
Submitted Date/Time: 06/02/2016 09:22  
Sampled by: Tyler Watson  
P.O. #: PO219269

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## **General Report Notes**

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Results relate only to items tested as received by 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.

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

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

## **Report Narrative**

---

There is no additional narrative for this analytical report



# Analytical Laboratory Report

## Laboratory Certifications

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

## 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



# Analytical Laboratory Report

## Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
SM3500-Cr B	Standard Method 3500 Cr B 20th Edition
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996



# Analytical Laboratory Report

## Sample Summary (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S73792.01	MW-104	Groundwater	06/01/16 11:00
S73792.02	MW-108	Groundwater	06/01/16 12:30
S73792.03	MW-110	Groundwater	06/01/16 13:30
S73792.04	MW-113	Groundwater	06/01/16 14:40
S73792.05	MW-109	Groundwater	06/01/16 15:40
S73792.06	Field Duplicate	Groundwater	06/01/16 00:01
S73792.07	Field Blank	Groundwater	06/01/16 00:01
S73792.08	Trip Blank	Groundwater	06/01/16 00:01



# Analytical Laboratory Report

Lab Sample ID: S73792.01  
 Sample Tag: MW-104  
 Collected Date/Time: 06/01/2016 11:00  
 Matrix: Groundwater  
 COC Reference: 81597

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	10.0	IR
1	125ml Plastic	HNO3	Yes	10.0	IR
4	40ml Glass	HCL	Yes	10.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
pH check for VOCs	<2	STD Units		N/A	06/06/16 16:00	JML		
<b>Inorganics</b>								
Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	06/02/16 10:30	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	06/02/16 10:30	JKB	0.003	
<b>Metals</b>								
Arsenic, Dissolved	0.00165	mg/L	0.002	E200.8	06/13/16 11:07	CCM	0.00043	b1
Arsenic	0.00162	mg/L	0.002	E200.8	06/13/16 10:56	CCM	0.00043	b
Chromium, Dissolved	0.00119	mg/L	0.005	E200.8	06/13/16 11:07	CCM	0.00021	b1
Chromium	0.465	mg/L	0.005	E200.8	06/13/16 10:56	CCM	0.00021	
Copper, Dissolved	0.00051	mg/L	0.005	E200.8	06/13/16 11:07	CCM	0.00019	b1
Copper	0.016	mg/L	0.005	E200.8	06/13/16 10:56	CCM	0.00019	
Lead, Dissolved	0.000764	mg/L	0.003	E200.8	06/13/16 11:07	CCM	0.000090	b1
Lead	0.000554	mg/L	0.003	E200.8	06/13/16 10:56	CCM	0.000090	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	06/13/16 11:07	CCM	0.0024	1
Selenium	0.006	mg/L	0.005	E200.8	06/13/16 10:56	CCM	0.0024	
Zinc, Dissolved	0.018	mg/L	0.005	E200.8	06/13/16 11:07	CCM	0.00064	1
Zinc	0.00148	mg/L	0.005	E200.8	06/13/16 10:56	CCM	0.00064	b
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	06/04/16 15:52	JGH	0.50	
Acetone	Not detected	ug/L	50	SW8260B	06/04/16 15:52	JGH	0.56	
Methyl iodide	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/04/16 15:52	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/04/16 15:52	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.20	

b-Value detected less than reporting limit, but greater than MDL 1-Filtered & Preserved in lab



# Analytical Laboratory Report

Lab Sample ID: S73792.01 (continued)

Sample Tag: MW-104

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/04/16 15:52	JGH	1.3	
Chloroform	3	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/04/16 15:52	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/04/16 15:52	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.20	
Bromodichloromethane	0.74	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.23	J
Dibromomethane	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/04/16 15:52	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 15:52	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.19	

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



# Analytical Laboratory Report

Lab Sample ID: S73792.01 (continued)

Sample Tag: MW-104

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/04/16 15:52	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73792.02  
 Sample Tag: MW-108  
 Collected Date/Time: 06/01/2016 12:30  
 Matrix: Groundwater  
 COC Reference: 81597

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	10.0	IR
1	125ml Plastic	HNO3	Yes	10.0	IR
4	40ml Glass	HCL	Yes	10.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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### Extraction / Prep.

Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
pH check for VOCs	<2	STD Units		N/A	06/06/16 16:00	JML		

### Inorganics

Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	06/02/16 11:05	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	06/02/16 10:35	JKB	0.003	

### Metals

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	06/13/16 11:10	CCM	0.00043	1
Arsenic	0.00096	mg/L	0.002	E200.8	06/13/16 11:08	CCM	0.00043	b
Chromium, Dissolved	0.00142	mg/L	0.005	E200.8	06/13/16 11:10	CCM	0.00021	b1
Chromium	0.00191	mg/L	0.005	E200.8	06/13/16 11:08	CCM	0.00021	b
Copper, Dissolved	0.00232	mg/L	0.005	E200.8	06/13/16 11:10	CCM	0.00019	b1
Copper	0.00195	mg/L	0.005	E200.8	06/13/16 11:08	CCM	0.00019	b
Lead, Dissolved	0.000187	mg/L	0.003	E200.8	06/13/16 11:10	CCM	0.000090	b1
Lead	0.000785	mg/L	0.003	E200.8	06/13/16 11:08	CCM	0.000090	b
Selenium, Dissolved	0.006	mg/L	0.005	E200.8	06/13/16 11:10	CCM	0.0024	1
Selenium	0.006	mg/L	0.005	E200.8	06/13/16 11:08	CCM	0.0024	
Zinc, Dissolved	1.22	mg/L	0.005	E200.8	06/13/16 11:10	CCM	0.00064	1
Zinc	0.006	mg/L	0.005	E200.8	06/13/16 11:08	CCM	0.00064	

### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	06/04/16 16:14	JGH	0.50	
Acetone	Not detected	ug/L	50	SW8260B	06/04/16 16:14	JGH	0.56	
Methyl iodide	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/04/16 16:14	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/04/16 16:14	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.29	

1-Filtered & Preserved in lab

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



# Analytical Laboratory Report

Lab Sample ID: S73792.02 (continued)

Sample Tag: MW-108

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/04/16 16:14	JGH	1.3	
Chloroform	1	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/04/16 16:14	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/04/16 16:14	JGH	0.29	
Carbon tetrachloride	2	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/04/16 16:14	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:14	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.19	



# Analytical Laboratory Report

Lab Sample ID: S73792.02 (continued)

Sample Tag: MW-108

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/04/16 16:14	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73792.03  
 Sample Tag: MW-110  
 Collected Date/Time: 06/01/2016 13:30  
 Matrix: Groundwater  
 COC Reference: 81597

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	10.0	IR
1	125ml Plastic	HNO3	Yes	10.0	IR
4	40ml Glass	HCL	Yes	10.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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### Extraction / Prep.

Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
pH check for VOCs	<2	STD Units		N/A	06/06/16 16:00	JML		

### Inorganics

Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	06/02/16 11:10	JKB	0.003	
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### Metals

Arsenic, Dissolved	0.00121	mg/L	0.002	E200.8	06/13/16 11:13	CCM	0.00043	b1
Arsenic	0.003	mg/L	0.002	E200.8	06/13/16 11:11	CCM	0.00043	
Chromium, Dissolved	0.00177	mg/L	0.005	E200.8	06/13/16 11:13	CCM	0.00021	b1
Chromium	0.00130	mg/L	0.005	E200.8	06/13/16 11:11	CCM	0.00021	b
Copper, Dissolved	0.00149	mg/L	0.005	E200.8	06/13/16 11:13	CCM	0.00019	b1
Copper	0.00074	mg/L	0.005	E200.8	06/13/16 11:11	CCM	0.00019	b
Lead, Dissolved	0.000320	mg/L	0.003	E200.8	06/13/16 11:13	CCM	0.000090	b1
Lead	Not detected	mg/L	0.003	E200.8	06/13/16 11:11	CCM	0.000090	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	06/13/16 11:13	CCM	0.0024	1
Selenium	Not detected	mg/L	0.005	E200.8	06/13/16 11:11	CCM	0.0024	
Zinc, Dissolved	0.373	mg/L	0.005	E200.8	06/13/16 11:13	CCM	0.00064	1
Zinc	Not detected	mg/L	0.005	E200.8	06/13/16 11:11	CCM	0.00064	

### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	06/04/16 16:35	JGH	0.50	
Acetone	0.67	ug/L	50	SW8260B	06/04/16 16:35	JGH	0.56	J
Methyl iodide	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/04/16 16:35	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/04/16 16:35	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.20	

b-Value detected less than reporting limit, but greater than MDL 1-Filtered & Preserved in lab

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



# Analytical Laboratory Report

Lab Sample ID: S73792.03 (continued)

Sample Tag: MW-110

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/04/16 16:35	JGH	1.3	
Chloroform	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/04/16 16:35	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/04/16 16:35	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/04/16 16:35	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:35	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S73792.03 (continued)

Sample Tag: MW-110

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Naphthalene	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/04/16 16:35	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73792.04  
 Sample Tag: MW-113  
 Collected Date/Time: 06/01/2016 14:40  
 Matrix: Groundwater  
 COC Reference: 81597

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	10.0	IR
1	125ml Plastic	HNO3	Yes	10.0	IR
4	40ml Glass	HCL	Yes	10.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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### Extraction / Prep.

Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
pH check for VOCs	<2	STD Units		N/A	06/06/16 16:00	JML		

### Inorganics

Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	06/02/16 11:15	JKB	0.003	
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### Metals

Arsenic, Dissolved	0.00208	mg/L	0.002	E200.8	06/13/16 11:16	CCM	0.00043	b1
Arsenic	0.009	mg/L	0.002	E200.8	06/13/16 11:15	CCM	0.00043	
Chromium, Dissolved	0.00173	mg/L	0.005	E200.8	06/13/16 11:16	CCM	0.00021	b1
Chromium	0.00486	mg/L	0.005	E200.8	06/13/16 11:15	CCM	0.00021	b
Copper, Dissolved	0.00073	mg/L	0.005	E200.8	06/13/16 11:16	CCM	0.00019	b1
Copper	Not detected	mg/L	0.005	E200.8	06/13/16 11:15	CCM	0.00019	
Lead, Dissolved	0.000155	mg/L	0.003	E200.8	06/13/16 11:16	CCM	0.000090	b1
Lead	Not detected	mg/L	0.003	E200.8	06/13/16 11:15	CCM	0.000090	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	06/13/16 11:16	CCM	0.0024	1
Selenium	Not detected	mg/L	0.005	E200.8	06/13/16 11:15	CCM	0.0024	
Zinc, Dissolved	0.317	mg/L	0.005	E200.8	06/13/16 11:16	CCM	0.00064	1
Zinc	Not detected	mg/L	0.005	E200.8	06/13/16 11:15	CCM	0.00064	

### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	06/04/16 16:57	JGH	0.50	
Acetone	Not detected	ug/L	50	SW8260B	06/04/16 16:57	JGH	0.56	
Methyl iodide	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/04/16 16:57	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/04/16 16:57	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.20	
1,1-Dichloroethane	3	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.20	

b-Value detected less than reporting limit, but greater than MDL 1-Filtered & Preserved in lab



# Analytical Laboratory Report

Lab Sample ID: S73792.04 (continued)

Sample Tag: MW-113

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
cis-1,2-Dichloroethene	30	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/04/16 16:57	JGH	1.3	
Chloroform	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.38	
1,1,1-Trichloroethane	0.30	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.28	J
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/04/16 16:57	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/04/16 16:57	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.16	
Trichloroethene	50	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/04/16 16:57	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.22	
1,1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 16:57	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.20	

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



# Analytical Laboratory Report

Lab Sample ID: S73792.04 (continued)

Sample Tag: MW-113

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Naphthalene	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/04/16 16:57	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73792.05  
 Sample Tag: MW-109  
 Collected Date/Time: 06/01/2016 15:40  
 Matrix: Groundwater  
 COC Reference: 81597

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	10.0	IR
1	125ml Plastic	HNO3	Yes	10.0	IR
4	40ml Glass	HCL	Yes	10.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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### Extraction / Prep.

Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
pH check for VOCs	<2	STD Units		N/A	06/06/16 16:00	JML		

### Inorganics

Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	06/02/16 11:20	JKB	0.003	
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	06/02/16 10:55	JKB	0.003	

### Metals

Arsenic, Dissolved	0.00065	mg/L	0.002	E200.8	06/13/16 11:18	CCM	0.00043	b1
Arsenic	0.005	mg/L	0.002	E200.8	06/13/16 11:20	CCM	0.00043	
Chromium, Dissolved	0.00117	mg/L	0.005	E200.8	06/13/16 11:18	CCM	0.00021	b1
Chromium	0.00338	mg/L	0.005	E200.8	06/13/16 11:20	CCM	0.00021	b
Copper, Dissolved	0.006	mg/L	0.005	E200.8	06/13/16 11:18	CCM	0.00019	1
Copper	0.008	mg/L	0.005	E200.8	06/13/16 11:20	CCM	0.00019	
Lead, Dissolved	0.000325	mg/L	0.003	E200.8	06/13/16 11:18	CCM	0.000090	b1
Lead	0.00260	mg/L	0.003	E200.8	06/13/16 11:20	CCM	0.000090	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	06/13/16 11:18	CCM	0.0024	1
Selenium	Not detected	mg/L	0.005	E200.8	06/13/16 11:20	CCM	0.0024	
Zinc, Dissolved	0.730	mg/L	0.005	E200.8	06/13/16 11:18	CCM	0.00064	1
Zinc	0.010	mg/L	0.005	E200.8	06/13/16 11:20	CCM	0.00064	

### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	06/04/16 17:19	JGH	0.50	
Acetone	0.60	ug/L	50	SW8260B	06/04/16 17:19	JGH	0.56	J
Methyl iodide	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/04/16 17:19	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/04/16 17:19	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.26	
Vinyl chloride	15	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.33	
1,1-Dichloroethene	3	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.29	

b-Value detected less than reporting limit, but greater than MDL 1-Filtered & Preserved in lab

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



# Analytical Laboratory Report

Lab Sample ID: S73792.05 (continued)

Sample Tag: MW-109

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
trans-1,2-Dichloroethene	0.59	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.20	J
1,1-Dichloroethane	1	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.20	
cis-1,2-Dichloroethene	35	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/04/16 17:19	JGH	1.3	
Chloroform	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.38	
1,1,1-Trichloroethane	0.31	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.28	J
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/04/16 17:19	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/04/16 17:19	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.16	
Trichloroethene	93	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/04/16 17:19	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.22	
1,1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:19	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.47	

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



# Analytical Laboratory Report

Lab Sample ID: S73792.05 (continued)

Sample Tag: MW-109

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/04/16 17:19	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73792.06  
 Sample Tag: Field Duplicate  
 Collected Date/Time: 06/01/2016 00:01  
 Matrix: Groundwater  
 COC Reference: 81597

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	10.0	IR
1	125ml Plastic	HNO3	Yes	10.0	IR
1	40ml Glass	HCL	Yes	10.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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### Extraction / Prep.

pH check for VOCs	<2	STD Units		N/A	06/06/16 16:00	JML		
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### Inorganics

Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	06/02/16 11:00	JKB	0.003	
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### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	06/04/16 17:41	JGH	0.50	
Acetone	Not detected	ug/L	50	SW8260B	06/04/16 17:41	JGH	0.56	
Methyl iodide	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/04/16 17:41	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/04/16 17:41	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/04/16 17:41	JGH	1.3	
Chloroform	3	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/04/16 17:41	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/04/16 17:41	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.20	
Bromodichloromethane	0.71	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.23	J
Dibromomethane	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.25	

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



# Analytical Laboratory Report

Lab Sample ID: S73792.06 (continued)

Sample Tag: Field Duplicate

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/04/16 17:41	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 17:41	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/04/16 17:41	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73792.07  
 Sample Tag: Field Blank  
 Collected Date/Time: 06/01/2016 00:01  
 Matrix: Groundwater  
 COC Reference: 81597

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	10.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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**Extraction / Prep.**

pH check for VOCs	<2	STD Units		N/A	06/06/16 16:00	JML		
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**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW8260B	06/04/16 18:03	JGH	0.50	
Acetone	0.69	ug/L	50	SW8260B	06/04/16 18:03	JGH	0.56	J
Methyl iodide	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/04/16 18:03	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/04/16 18:03	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/04/16 18:03	JGH	1.3	
Chloroform	0.49	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.21	J
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/04/16 18:03	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/04/16 18:03	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.24	

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



# Analytical Laboratory Report

Lab Sample ID: S73792.07 (continued)

Sample Tag: Field Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/04/16 18:03	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 18:03	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/04/16 18:03	JGH	0.16	



# Analytical Laboratory Report

Lab Sample ID: S73792.08  
 Sample Tag: Trip Blank  
 Collected Date/Time: 06/01/2016 00:01  
 Matrix: Groundwater  
 COC Reference: 81597

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	10.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
----------	---------	-------	----	--------	---------------	------	-----	-------

**Extraction / Prep.**

pH check for VOCs	<2	STD Units		N/A	06/06/16 16:00	JML		
-------------------	----	-----------	--	-----	----------------	-----	--	--

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW8260B	06/04/16 13:38	JGH	0.50	
Acetone	Not detected	ug/L	50	SW8260B	06/04/16 13:38	JGH	0.56	
Methyl iodide	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/04/16 13:38	JGH	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/04/16 13:38	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/04/16 13:38	JGH	1.3	
Chloroform	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/04/16 13:38	JGH	0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/04/16 13:38	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.30	



# Analytical Laboratory Report

Lab Sample ID: S73792.08 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/04/16 13:38	JGH	0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/04/16 13:38	JGH	0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/04/16 13:38	JGH	0.16	



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 Phone (517) 332-0167 Fax (517) 332-4034  
 www.meritlabs.com

C.O.C. PAGE # \_\_\_\_\_ OF \_\_\_\_\_

81597

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME Mike Smith  
 COMPANY Applied Ecosystem, Inc  
 ADDRESS G-4300 S. Saginaw St.  
 CITY Burton STATE MI ZIP CODE 48529  
 PHONE NO. 810-715-2525 FAX NO. 810-715-2526 P.O. NO. \_\_\_\_\_  
 E-MAIL ADDRESS aemds@yahoo.com QUOTE NO. \_\_\_\_\_

CONTACT NAME \_\_\_\_\_  SAME  
 COMPANY \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_  
 PHONE NO. \_\_\_\_\_ E-MAIL ADDRESS \_\_\_\_\_

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

PROJECT NO./NAME Racer Flint West SAMPLER(S) - PLEASE PRINT/SIGN NAME Tyler Watson Tyler Watson  
 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

# Containers & Preservatives

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER	VOC's	Total Metals	Dissolved Metals	Gr VI	Certifications		Project Locations		Special Instructions	
	DATE	TIME															<input type="checkbox"/> OHIO VAP	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> DoD	<input type="checkbox"/> NPDES		<input type="checkbox"/> Detroit
73792.01	6/1	11:00	MW-104	5w	6		X	X					X	X	X	X		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	★ Metals
.02			MW-108	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					• Arsenic
.03			MW-110	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					• Zinc
.04			MW-113	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					• Lead
.05			MW-109	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					• Copper
.06			Field Duplicate	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					• Selenium
.07			Field Blank	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					• Chromium
.08			Trip Blank	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					

RELINQUISHED BY: Tyler Watson  Sampler DATE 6/2 TIME 9:22  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RECEIVED BY: Kevin George DATE 6/2/16 TIME 9:22  
 SEAL NO. \_\_\_\_\_ SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 SEAL NO. \_\_\_\_\_ SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 NOTES: TEMP. ON ARRIVAL 10.0



# Analytical Laboratory Report

Report ID: S73978.01(01)  
Generated on 06/16/2016

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

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:  
Kevin George (kgeorge@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

Report Summary

---

Lab Sample ID(s): S73978.01-S73978.05  
Project: Flint Racer West  
Collected Date: 06/08/2016  
Submitted Date/Time: 06/09/2016 09:50  
Sampled by: Tyler Watson  
P.O. #: PO219269

Table of Contents

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## **General Report Notes**

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Results relate only to items tested as received by 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.

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

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

## **Report Narrative**

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There is no additional narrative for this analytical report



# Analytical Laboratory Report

## Laboratory Certifications

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

## 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



# Analytical Laboratory Report

## Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
SM3500-Cr B	Standard Method 3500 Cr B 20th Edition
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996



# Analytical Laboratory Report

## Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S73978.01	MW-111	Groundwater	06/08/16 11:00
S73978.02	MW-103	Groundwater	06/08/16 11:45
S73978.03	Field Duplicate	Groundwater	06/08/16 00:01
S73978.04	Field Blank	Groundwater	06/08/16 00:01
S73978.05	Trip Blank	Groundwater	06/08/16 00:01



# Analytical Laboratory Report

Lab Sample ID: S73978.01  
 Sample Tag: MW-111  
 Collected Date/Time: 06/08/2016 11:00  
 Matrix: Groundwater  
 COC Reference: 81593

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	8.6	IR
1	125ml Plastic	HNO3	Yes	8.6	IR
4	40ml Glass	HCL	Yes	8.6	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
----------	---------	-------	----	--------	---------------	------	-----	-------

### Extraction / Prep.

Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
pH check for VOCs	<2	STD Units		N/A	06/16/16 11:30	JML		

### Inorganics

Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	06/09/16 10:30	JKB	0.003	1
Chromium VI	Not detected	mg/L	0.01	SM3500-Cr B	06/09/16 10:20	JKB	0.003	

### Metals

Arsenic, Dissolved	0.00055	mg/L	0.002	E200.8	06/13/16 11:36	CCM	0.00043	b2
Arsenic	0.00100	mg/L	0.002	E200.8	06/13/16 11:34	CCM	0.00043	b
Chromium, Dissolved	0.00333	mg/L	0.005	E200.8	06/13/16 11:36	CCM	0.00021	b2
Chromium	0.00436	mg/L	0.005	E200.8	06/13/16 11:34	CCM	0.00021	b
Copper, Dissolved	0.00125	mg/L	0.005	E200.8	06/13/16 11:36	CCM	0.00019	b2
Copper	0.00138	mg/L	0.005	E200.8	06/13/16 11:34	CCM	0.00019	b
Lead, Dissolved	0.000094	mg/L	0.003	E200.8	06/13/16 11:36	CCM	0.000090	b2
Lead	0.000500	mg/L	0.003	E200.8	06/13/16 11:34	CCM	0.000090	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	06/13/16 11:36	CCM	0.0024	2
Selenium	Not detected	mg/L	0.005	E200.8	06/13/16 11:34	CCM	0.0024	
Zinc, Dissolved	0.049	mg/L	0.005	E200.8	06/13/16 11:36	CCM	0.00064	2
Zinc	0.00295	mg/L	0.005	E200.8	06/13/16 11:34	CCM	0.00064	b

### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	06/16/16 02:48	WAT	0.50	
Acetone	Not detected	ug/L	50	SW8260B	06/16/16 02:48	WAT	0.56	
Methyl iodide	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/16/16 02:48	WAT	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/16/16 02:48	WAT	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT	0.29	

1-Filtered in lab.

b-Value detected less than reporting limit, but greater than MDL 2-Filtered and preserved in lab.



# Analytical Laboratory Report

Lab Sample ID: S73978.01 (continued)

Sample Tag: MW-111

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
<b>Organics - Volatiles (continued)</b>							
<b>Volatile Organics - DEQ List (continued)</b>							
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/16/16 02:48	WAT 1.3	
Chloroform	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/16/16 02:48	WAT 0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/16/16 02:48	WAT 0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.16	
Trichloroethene	11	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT 0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT 0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/16/16 02:48	WAT 0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT 0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT 0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:48	WAT 0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT 0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT 0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT 0.19	



# Analytical Laboratory Report

Lab Sample ID: S73978.01 (continued)

Sample Tag: MW-111

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
<b>Organics - Volatiles (continued)</b>							
<b>Volatile Organics - DEQ List (continued)</b>							
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT 0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT 0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/16/16 02:48	WAT 0.16	



# Analytical Laboratory Report

Lab Sample ID: S73978.02  
 Sample Tag: MW-103  
 Collected Date/Time: 06/08/2016 11:45  
 Matrix: Groundwater  
 COC Reference: 81593

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	None	Yes	8.6	IR
1	125ml Plastic	HNO3	Yes	8.6	IR
4	40ml Glass	HCL	Yes	8.6	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
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### Extraction / Prep.

Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
Metal Digestion	Completed			SW3015A	06/13/16 09:00	CCM		
pH check for VOCs	<2	STD Units		N/A	06/16/16 11:30	JML		

### Inorganics

Chromium VI, Dissolved	Not detected	mg/L	0.01	SM3500-Cr B	06/09/16 10:35	JKB	0.003	1
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### Metals

Arsenic, Dissolved	0.006	mg/L	0.002	E200.8	06/13/16 11:41	CCM	0.00043	2
Arsenic	0.022	mg/L	0.002	E200.8	06/13/16 11:43	CCM	0.00043	
Chromium, Dissolved	0.00116	mg/L	0.005	E200.8	06/13/16 11:41	CCM	0.00021	b2
Chromium	0.00118	mg/L	0.005	E200.8	06/13/16 11:43	CCM	0.00021	b
Copper, Dissolved	0.00202	mg/L	0.005	E200.8	06/13/16 11:41	CCM	0.00019	b2
Copper	0.00077	mg/L	0.005	E200.8	06/13/16 11:43	CCM	0.00019	b
Lead, Dissolved	0.000278	mg/L	0.003	E200.8	06/13/16 11:41	CCM	0.000090	b2
Lead	0.000105	mg/L	0.003	E200.8	06/13/16 11:43	CCM	0.000090	b
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	06/13/16 11:41	CCM	0.0024	2
Selenium	Not detected	mg/L	0.005	E200.8	06/13/16 11:43	CCM	0.0024	
Zinc, Dissolved	1.87	mg/L	0.005	E200.8	06/13/16 11:41	CCM	0.00064	2
Zinc	0.00246	mg/L	0.005	E200.8	06/13/16 11:43	CCM	0.00064	b

### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	06/16/16 03:10	WAT	0.50	
Acetone	Not detected	ug/L	50	SW8260B	06/16/16 03:10	WAT	0.56	
Methyl iodide	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT	0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT	0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT	0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/16/16 03:10	WAT	0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/16/16 03:10	WAT	0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT	0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT	0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT	0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT	0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT	0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT	0.29	

1-Filtered in lab.

2-Filtered and preserved in lab.

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



# Analytical Laboratory Report

Lab Sample ID: S73978.02 (continued)

Sample Tag: MW-103

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
<b>Organics - Volatiles (continued)</b>							
<b>Volatile Organics - DEQ List (continued)</b>							
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/16/16 03:10	WAT 1.3	
Chloroform	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/16/16 03:10	WAT 0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/16/16 03:10	WAT 0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.16	
Trichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT 0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT 0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.30	
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/16/16 03:10	WAT 0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT 0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT 0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:10	WAT 0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT 0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT 0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT 0.19	



# Analytical Laboratory Report

Lab Sample ID: S73978.02 (continued)

Sample Tag: MW-103

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
<b>Organics - Volatiles (continued)</b>							
<b>Volatile Organics - DEQ List (continued)</b>							
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT 0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT 0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/16/16 03:10	WAT 0.16	



# Analytical Laboratory Report

Lab Sample ID: S73978.03  
 Sample Tag: Field Duplicate  
 Collected Date/Time: 06/08/2016 00:01  
 Matrix: Groundwater  
 COC Reference: 81593

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	8.6	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
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**Extraction / Prep.**

pH check for VOCs	<2	STD Units		N/A	06/16/16 11:30	JML	
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**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW8260B	06/16/16 03:32	WAT 0.50	
Acetone	Not detected	ug/L	50	SW8260B	06/16/16 03:32	WAT 0.56	
Methyl iodide	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/16/16 03:32	WAT 0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/16/16 03:32	WAT 0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/16/16 03:32	WAT 1.3	
Chloroform	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/16/16 03:32	WAT 0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/16/16 03:32	WAT 0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.16	
Trichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.30	



# Analytical Laboratory Report

Lab Sample ID: S73978.03 (continued)

Sample Tag: Field Duplicate

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
<b>Organics - Volatiles (continued)</b>							
<b>Volatile Organics - DEQ List (continued)</b>							
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/16/16 03:32	WAT 0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 03:32	WAT 0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/16/16 03:32	WAT 0.16	



# Analytical Laboratory Report

Lab Sample ID: S73978.04  
 Sample Tag: Field Blank  
 Collected Date/Time: 06/08/2016 00:01  
 Matrix: Groundwater  
 COC Reference: 81593

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	8.6	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
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**Extraction / Prep.**

pH check for VOCs	<2	STD Units		N/A	06/16/16 11:30	JML	
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**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW8260B	06/16/16 02:26	WAT	0.50
Acetone	Not detected	ug/L	50	SW8260B	06/16/16 02:26	WAT	0.56
Methyl iodide	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.25
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT	0.24
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT	0.19
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/16/16 02:26	WAT	0.57
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/16/16 02:26	WAT	0.26
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT	0.50
Chloromethane	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT	0.26
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.31
Bromomethane	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT	0.32
Chloroethane	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT	0.34
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.33
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.27
Methylene chloride	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT	0.29
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.20
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.20
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.26
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/16/16 02:26	WAT	1.3
Chloroform	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.21
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.38
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.28
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/16/16 02:26	WAT	0.14
2-Hexanone	Not detected	ug/L	50	SW8260B	06/16/16 02:26	WAT	0.29
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.20
Benzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.20
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.16
Trichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.23
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.20
Bromodichloromethane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.23
Dibromomethane	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT	0.20
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.19
Toluene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.25
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.25
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.28
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.20
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.20
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT	0.24
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT	0.30



# Analytical Laboratory Report

Lab Sample ID: S73978.04 (continued)

Sample Tag: Field Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
<b>Organics - Volatiles (continued)</b>							
<b>Volatile Organics - DEQ List (continued)</b>							
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/16/16 02:26	WAT 0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT 0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT 0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:26	WAT 0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT 0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT 0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT 0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT 0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT 0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/16/16 02:26	WAT 0.16	



# Analytical Laboratory Report

Lab Sample ID: S73978.05  
 Sample Tag: Trip Blank  
 Collected Date/Time: 06/08/2016 00:01  
 Matrix: Groundwater  
 COC Reference: 81593

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	8.6	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
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**Extraction / Prep.**

pH check for VOCs	<2	STD Units		N/A	06/16/16 11:30	JML	
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**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW8260B	06/16/16 02:04	WAT 0.50	
Acetone	Not detected	ug/L	50	SW8260B	06/16/16 02:04	WAT 0.56	
Methyl iodide	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.25	
Carbon disulfide	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.24	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.19	
Acrylonitrile	Not detected	ug/L	2	SW8260B	06/16/16 02:04	WAT 0.57	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	06/16/16 02:04	WAT 0.26	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.50	
Chloromethane	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.26	
Vinyl chloride	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.31	
Bromomethane	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.32	
Chloroethane	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.27	
Methylene chloride	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.26	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	06/16/16 02:04	WAT 1.3	
Chloroform	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.21	
Bromochloromethane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.28	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	06/16/16 02:04	WAT 0.14	
2-Hexanone	Not detected	ug/L	50	SW8260B	06/16/16 02:04	WAT 0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.20	
Benzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.16	
Trichloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.20	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.23	
Dibromomethane	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.20	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.19	
Toluene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.28	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.20	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.20	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.30	



# Analytical Laboratory Report

Lab Sample ID: S73978.05 (continued)

Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech MDL	Flags
<b>Organics - Volatiles (continued)</b>							
<b>Volatile Organics - DEQ List (continued)</b>							
Chlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.17	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.24	
Ethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.26	
p,m-Xylene	Not detected	ug/L	2	SW8260B	06/16/16 02:04	WAT 0.41	
o-Xylene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.25	
Styrene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.18	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.25	
Bromoform	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.18	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.33	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.23	
Bromobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.27	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.26	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.18	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.22	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.25	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.21	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.28	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.061	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	06/16/16 02:04	WAT 0.22	
Hexachloroethane	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.21	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.47	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.20	
Naphthalene	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.21	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	06/16/16 02:04	WAT 0.16	



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 Phone (517) 332-0167 Fax (517) 332-4034  
 www.meritlabs.com

C.O.C. PAGE # \_\_\_\_\_ OF \_\_\_\_\_

81593

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME *Mike Smith*  
 COMPANY *Applied EcoSystems*  
 ADDRESS *G-4300 S. Saginaw St.*  
 CITY *Burton* STATE *MI* ZIP CODE *48529*  
 PHONE NO. *810-715-2525* FAX NO. *810-715-2526* P.O. NO. \_\_\_\_\_  
 E-MAIL ADDRESS *ae\_mds@yahoo.com* QUOTE NO. \_\_\_\_\_

CONTACT NAME \_\_\_\_\_  SAME  
 COMPANY \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_  
 PHONE NO. \_\_\_\_\_ E-MAIL ADDRESS \_\_\_\_\_

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME *Flint Racer West* SAMPLER(S) - PLEASE PRINT/SIGN NAME *Tyler Watson / Tyler Watson*  
 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

# Containers & Preservatives

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER	Voc's	Total Metals	Dissolved Metals	Gr VI	Certifications		Project Locations		Special Instructions
	DATE	TIME															<input type="checkbox"/> OHIO VAP	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> DoD	<input type="checkbox"/> NPDES	
<i>73978.01</i>	<i>6/8</i>	<i>11:00</i>	<i>MW-111</i>		<i>2w</i>	<i>6</i>	<i>x</i>	<i>4</i>	<i>x</i>				<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>					<i>* Metals</i>
<i>.02</i>		<i>11:45</i>	<i>MW-103</i>		<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>				<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>					<i>• Arsenic</i>
																					<i>• Zinc</i>
																					<i>• Lead</i>
																					<i>• Copper</i>
																					<i>• Selenium</i>
																					<i>• Chromium</i>
<i>.03</i>			<i>Field Duplicate</i>		<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>	<i>x</i>				<i>↓</i>								
<i>.04</i>			<i>Field Blank</i>		<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>												
<i>.05</i>			<i>Trip Blank</i>		<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>↓</i>												

RELINQUISHED BY: *Tyler Watson*  Sampler DATE *6/9* TIME *9:50*  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RECEIVED BY: *Rafae Ball* DATE *6/9/16* TIME *9:50*  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_ NOTES: TEMP. ON ARRIVAL *8.6*  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_

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