

March 7, 2019

**Mr. Paul Bucholtz**

Michigan Department of Environmental Quality  
Remediation and Redevelopment Division  
Constitution Hall  
525 West Allegan Street  
Lansing, MI 48909

RE: 2018 Annual Groundwater Sampling Report  
RACER Trust Hemphill Road Industrial Land, Burton, Michigan  
FILE: 15388 / 68544

**Dear Mr. Bucholtz:**

This letter serves as a Summary Report for the semiannual 2018 groundwater sampling events conducted in April and October 2018 at the Revitalizing Auto Communities Environmental Response (RACER) Trust Hemphill Road Industrial Land (HRIL) facility located in Burton, Michigan (Site). Semiannual (SA) groundwater sampling was conducted to document groundwater quality for the Site in accordance with the MDEQ-approved Groundwater Investigation Work Plan dated September 2010.

### **GROUNDWATER SAMPLING**

The semiannual 2018 groundwater sampling was performed utilizing the following sampling protocols.

Prior to sampling, water level measurements were collected from monitoring wells at the Site and the offsite wells. Monitoring well locations are shown on [Figure 1](#). Monitoring well construction details are listed on [Table 1](#) and groundwater elevation data is included on [Table 2](#). The groundwater elevations observed during the sampling events are within the historical range of static groundwater measurements for the Site.

As reported in the June 2011 Groundwater Investigation Report for the Site, based on the distance between wells and the Site geology and previous waste disposal, the geologic units observed at the Site do not appear continuous across the Site and do not appear to be connected. Groundwater in the shallow zone appears to flow predominantly toward the southwest as shown on [Figure 2](#) and [Figure 4](#). Groundwater in the drift aquifer appears to flow in a northerly direction as shown on [Figure 3](#) and [Figure 5](#).

The shallow and deep groundwater elevations are depicted on [Figure 2](#) (Shallow/April 2018), [Figure 3](#) (Deep/April 2018), [Figure 4](#) (Shallow/October 2018), and [Figure 5](#) (Deep/October 2018).

Groundwater samples for the semiannual 2018 sampling events were collected on April 17 and 18, 2018 (first SA event) and October 15, 16, and 17, 2018 (second SA event). The first SA event and the second SA event samples were collected from nine on-site monitoring wells and five off-site monitoring wells. The nine on-site monitoring wells are: OBG MW-1S, OBG MW-2S, OBG MW-2D, OBG MW-3S, OBG MW-5S (screened in fill material), OBG MW-6S, OBG MW-6D, OBG MW-7S, and OBG MW-7D. The five off-site monitoring wells are: OBG OS MW-1, OBG OS MW-2, OBG OS MW-3, OBG OS MW-4, and OBG OS MW-5 (all of which are screened in fill material).



Samples were not collected from wells MW-401 and MW-403 (installed by others) based on the screen lengths of these wells being over 10 ft in length. Also, groundwater samples were not collected during either event from OBG MW-4S based on the presence of Light Non-Aqueous Phase Liquid (LNAPL) in this well. Samples were not collected from wells OBG MW-8, OBG MW-9, OBG MW-10, and OBG MW-11 as these were installed in June 2016 for LNAPL assessment. Due to the viscous LNAPL coating the interface probe of the measuring instrument, it was difficult to acquire an accurate measurement of the LNAPL thickness in monitoring wells MW-401, OBG MW-4S, OBG MW-10. LNAPL was not detected in monitoring wells MW-403, OBG MW-8, OBG MW-9, and OBG MW-11.

Groundwater sampling was performed in accordance with MDEQ Operational Memorandum No.2-Attachment 5 for low-flow sampling. Low-flow groundwater sampling was performed using polyethylene sample tubing lowered approximately to the midpoint of the well screen and connected to a peristaltic pump. The tubing was then attached to a flow-through cell attached to a physical parameter measurement instrument capable of measuring temperature, conductivity, pH, dissolved oxygen (DO), and oxidation-reduction potential (ORP). Turbidity was also measured with a Hach® colorimeter.

Once the pump was turned on, the well was purged at a rate that produced less than 0.3 ft of drawdown in the well, except for wells OBG MW-1S, OBG MW-2S/D, OBG MW-5S, OBG MW-6S/D, OBG MW-7S, OBG OS MW-1, and OBG OS MW-2 during the first SA event and second SA event. For these wells, the purge rate was maintained at a maximum of 100 milliliters per minute [ml/min], however, a drawdown of more than 0.30 ft was observed.

Measurements of water quality (*i.e.*, physical parameters) were recorded on a groundwater sampling log. Purging continued until the water quality parameters stabilized (within the guidelines of the USEPA Low Stress Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells) over three consecutive 5-minute intervals. Once stabilized, the pumping rate was reduced and the flow-through cell was disconnected. Groundwater samples were collected from each well directly into laboratory supplied containers. The sample container selection and preservation techniques followed MDEQ Operational Memorandum No.2-Attachment 4.

Groundwater sample logs are included in [Exhibit A](#).

The samples were labeled, packed on ice, and shipped via courier under routine chain-of-custody protocols to Merit Laboratories, Inc. (Merit) of East Lansing, Michigan. The groundwater samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8260, and total and dissolved metals (arsenic, barium, lead, selenium, and zinc) by EPA Method 200.8.

Quality Assurance/Quality Control (QA/QC) samples were collected during each sampling event in accordance with MDEQ Operational Memorandum No.2-Attachment 5. QA/QC samples included a blind duplicate, collocated sample, field blank, equipment blank, and matrix spike/matrix spike duplicate (MS/MSD) set. One trip blank was submitted with each cooler shipment containing samples collected for VOC analyses.

The blind duplicate samples for both the April and October 2018 sampling events were collected from OBG MW-5S and the collocated samples were collected from OBG MW-2S during the April event and OBG MW-1S during the October event. The duplicate and collocated sample results compared closely with the original sample results indicating good reproducibility. Furthermore, the various blank samples collected during both sampling events were non-detect indicating that cross-contamination was not an issue for the sampling events.

## GROUNDWATER SAMPLING RESULTS

### FIRST SEMIANNUAL (SA) SAMPLING EVENT- APRIL 2018

Analytical results for the first SA event (April 2018) indicate VOCs were not detected above method detection limits, except at monitoring wells OBG MW-5S (screened in fill material), OBG MW-6D and OBG MW-7D, and offsite monitoring wells OBG OS MW-4 and OBG OS MW-5 (which are both screened in fill material).

Monitoring well OBG MW-5S had the following detections above method detection limits:

- 1,4-dichlorobenzene (1 µg/l).

Monitoring well OBG MW-6D had the following detections above method detection limits:

- 1,3,5-Trimethylbenzene (3 µg/l), 1,2,4-trimethylbenzene (8 µg/l), and 1,2,3-trimethylbenzene (7 µg/l).

Monitoring well OBG MW-7D had the following detections above method detection limits:

- 1,3,5-Trimethylbenzene (2 µg/l), 1,2,4-trimethylbenzene (6 µg/l), and 1,2,3-trimethylbenzene (5 µg/l).

Offsite monitoring well OBG OS MW-4 had the following detections above method detection limits:

- Chlorobenzene (8 µg/l), ethylbenzene (1 µg/l), p,m-xylene (2 µg/l), o-xylene (1 µg/l), isopropylbenzene (6 µg/l), n-propylbenzene (9 µg/l), n-butylbenzene (1 µg/l), sec-butylbenzene (2 µg/l), 1,2,4-trimethylbenzene (4 µg/l), 1,2,3-trimethylbenzene (4 µg/l), 1,4-dichlorobenzene (5 µg/l), naphthalene (53 µg/l), and 2-methylnaphthalene (48 µg/l).

Offsite monitoring well OBG OS MW-5 had the following detection above method detection limit:

- Chlorobenzene (7 µg/l) and 1,4-Dichlorobenzene (3 µg/l).

These concentrations are below the MDEQ Part 201 Generic Residential Drinking Water criteria. The analytical results for the first SA event are summarized on [Table 3](#) and the groundwater analytical data sheets are included in [Exhibit B](#).

Groundwater analytical results for inorganic analysis indicate selenium and zinc were not detected above the method detection limits or detections were below the MDEQ Part 201 Generic Residential Drinking Water criteria.

The samples were analyzed for both total and dissolved metals. During the April sampling the dissolved sample results were within 20 percent of the total sample results, but are, with few exceptions, consistently lower than their total sample results. Therefore, it appears turbidity, or more accurately, suspended solids play a role in the higher total metals results.

Analytical results for arsenic levels at or above the MDEQ Part 201 Generic Residential and Non-Residential Drinking Water criterion (10 µg/l) are as follows (results are total unless otherwise noted and only the highest of the total or dissolved sample results for each represented well is reported herein):

- Onsite monitoring wells: OBG MW-2S (13 µg/l), OBG MW-2D (23 µg/l), OBG MW- 6D (dissolved - 18 µg/l), OBG MW-7S (10 µg/l), and OBG MW-7D (29 µg/l)
- Offsite monitoring wells: OBG OS MW-1 (37 µg/l), OBG OS MW-2 (49 µg/l), and OBG OS MW-3 (21 µg/l).

It is well documented in the literature that arsenic can be released under anoxic (reducing) conditions, and in Genesee County it is well documented that naturally occurring arsenic is present in the glacial soils/groundwater. There is a noticeable trend in the groundwater data whereby the deeper wells in each of the nested pairs onsite (OBG MW-2S/D, OBG MW-6S/D, and OBG MW-7S/D) consistently have higher arsenic results, which also tend to have lower ORP and DO results and are presumably under greater reducing conditions than the shallower wells. There does not appear to be a direct relationship between higher arsenic concentrations and wells screened in fill material, as onsite well OBG MW-5S had a low arsenic concentration and the offsite wells had inconsistent results. Therefore, the fill material does not appear to be the source of the elevated arsenic concentrations. In addition, the fill material is not causing highly reducing conditions to mobilize the arsenic.

Analytical results for barium levels above the MDEQ Part 201 Generic Residential and Non-Residential Drinking Water criterion (2,000 µg/l) are as follows:

- Offsite monitoring wells: OBG OS MW-5 (2,400 µg/l).

Barium can also be released under anoxic (reducing) conditions; however, to a lesser extent than arsenic. Unlike arsenic, there does not appear to be a relationship between the ORP and DO readings in the wells and barium concentrations. However, there appears to be a relationship between wells screened in fill material and higher barium concentrations. Onsite well OBG MW-5S, and offsite wells OBG OS-MW-1, OBG OS-MW-4, and OBG OS-MW-5 had the highest barium results during this event and have consistently had higher results than the wells screened in native soils.

Analytical results for lead levels above the MDEQ Part 201 Generic Residential and Non-Residential Drinking Water criterion (4 µg/l) are as follows:

- Offsite monitoring wells: OBG OS MW-2 (5 µg/l) and OBG OS MW-5 (5 µg/l). Dissolved samples were below the method detection limit.

There appears to be a possible relationship between wells screened in fill material and the detection of lead in the wells, as only OBG OS MW-2 and OBG OS MW-5, both screened in fill, had lead detections this sampling event.

A figure depicting the April 2018 groundwater results above MDEQ criteria is included as [Figure 6](#).

## **SECOND SEMIANNUAL SAMPLING EVENT- OCTOBER 2018**

Analytical results for the second SA event (October 2018) indicate VOCs were not detected above method detection limits, except at monitoring well OBG MW-5S, and offsite monitoring wells OBG OS MW-4 and OBG OS MW-5.

Monitoring well OBG MW-5S had the following detections above method detection limits:

- 1,4-dichlorobenzene (1 µg/l).

Offsite monitoring well OBG OS MW-4 had the following detections above method detection limits:

- Chlorobenzene (8 µg/l), o-xylene (1 µg/l), isopropylbenzene (6 µg/l), n-propylbenzene (10 µg/l), 1,2,4- trimethylbenzene (3 µg/l), 1,2,3- trimethylbenzene (3 µg/l), n-butylbenzene (1 µg/l), sec-butylbenzene (2 µg/l), 1,4-dichlorobenzene (4 µg/l), naphthalene (32 µg/l), and 2-methylnaphthalene (44 µg/l).

Offsite monitoring well OBG OS MW-5 had the following detection above method detection limit:

- Chlorobenzene (8 µg/l), n-propylbenzene (1 µg/l), and 1,4-dichlorobenzene (4 µg/l).

These concentrations are below the MDEQ Part 201 Generic Residential Drinking Water criteria. The

analytical results for the second SA event are summarized on [Table 3](#) and the groundwater analytical data sheets are included in [Exhibit C](#).

Groundwater results for inorganic analysis indicate selenium and zinc were not detected above method detection limits or detections were below the MDEQ Part 201 Generic Residential Drinking Water criteria.

The samples were analyzed for both total and dissolved metals. The dissolved sample results were also within 20 percent of the total sample results, similar to the April sampling results, and are consistently lower than their total sample results. Therefore, it appears turbidity, or more accurately, suspended solids play a role in the higher total metals results.

Analytical results for arsenic levels above the MDEQ Part 201 Generic Residential and Non-Residential Drinking Water criterion (10 µg/l) are as follows (results are total):

- Onsite Monitoring wells: OBG MW-2S (30 µg/l), OBG MW-2D (41 µg/l), OBG MW- 6D (19 µg/l), OBG MW- 7S (17 µg/l), and OBG MW-7D (30 µg/l)
- Offsite monitoring wells: OBG OS MW-1 (34 µg/l) and OBG OS MW-2 (55 µg/l).

Similar to the April sampling, there appears to be a relationship between the reducing conditions observed in the wells (ORP and DO) and the arsenic concentrations whereby deeper and wells with more reducing conditions generally exhibit higher arsenic concentrations.

Analytical results for barium levels above the MDEQ Part 201 Generic Residential and Non-Residential Drinking Water criterion (2,000 µg/l) are as follows (results are total):

- Offsite Monitoring well: OBG OS-MW-5 (2,040 µg/l).

Similar to the April sampling, there appears to be a relationship between barium concentrations and wells screened in fill material whereby wells screened in fill generally exhibit higher barium concentrations.

Analytical results for lead levels at or above the MDEQ Part 201 Generic Residential and Non-Residential Drinking Water criterion (4.0 µg/l) are as follows (results are total):

- Onsite Monitoring well: OBG MW-5S (4 µg/l)
- Offsite Monitoring well: OBG OS-MW-2 (8 µg/l).

Similar to the April sampling event, there appears to be a possible relationship between wells screened in fill material and the detection of lead in the wells, as both OBG MW-5S and OBG OS MW-2 are screened in fill and had lead detections this sampling event.

A figure depicting the October 2018 groundwater results above MDEQ criteria is included as [Figure 7](#).

## SUMMARY

The results of the 2018 semiannual groundwater sampling program are comparable to the previous results from 2017. Concentrations of arsenic were detected above the MDEQ Part 201 Nonresidential Drinking Water criteria in samples collected from both onsite and offsite wells and both wells screened in fill material and native soils. Therefore the concentrations appear to be related to the reducing conditions observed at the wells. In addition, barium and lead concentrations were detected in offsite wells above the MDEQ Part 201 Nonresidential Drinking Water criteria, which may be related to the fill material in these areas. On-site exceedances can be addressed with a resource use restriction for Site groundwater in the Remedial Action Plan (RAP).

Concentrations of VOCs were detected above method detection limits at three onsite wells (OBG MW-5S, OBG MW-6D and OBG MW-7D) during the April event and one onsite well (OBG MW-5S) during the

October event, and two offsite wells (OBG OS MW-4 and OBG OS MW-5) during both the April and October events. These detections are below their MDEQ Part 201 Nonresidential Drinking Water criteria.

Review of the groundwater analytical data for both semiannual sampling events and historical data indicates groundwater compound concentrations at offsite wells (OBG OS MW-4 and OBG OS MW-5) are mostly different than those detected at the HRIL Site. Therefore, it is likely the impacted groundwater at the HRIL Site is not the source for groundwater impact offsite to the east.

## PROPOSED FUTURE GROUNDWATER MONITORING

An annual groundwater sampling event is proposed for 2019. The groundwater sampling program will include collection of samples from the onsite groundwater well network at the HRIL site, as well as offsite wells (OBG OS MW-1, OBG OS MW-2, OBG OS MW-3, OBG OS MW-4, and OBG OS MW-5). Groundwater samples will be analyzed for VOCs by EPA Method 8260, and total and dissolved metals (arsenic, barium, lead, and selenium) by EPA Method 200.8. The sampling event will be conducted in October 2019 based on generally slightly higher results historically during the fall sampling events, especially for the onsite wells.

Monitoring wells MW-401, MW-403, OBG MW-4S, OBG MW-8, OBG MW-9, OBG MW-10, and OBG MW-11 will continued to be monitored for the presence of LNAPL.

If you have questions or would like additional information, please contact me at (313) 333-0211 or David Favero at (734) 879-9525.

Very truly yours,  
**O'BRIEN & GERE ENGINEERS, INC.**



Clifford S. Yantz  
Senior Hydrogeologist

cc: David Favero - RACER Trust  
Kevin Schneider - OBG

## ATTACHMENTS:

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Table 1- Monitoring Well Construction Details

Table 2- Groundwater Elevation Data

Table 3- Groundwater Analytical Results- April 2018 and October 2018

Figure 1- Monitoring Well Locations

Figure 2- Shallow Groundwater Elevation Contours – April 2018

Figure 3- Deep Groundwater Elevation Contours – April 2018

Figure 4- Shallow Groundwater Elevation Contours - October 2018

Figure 5- Deep Groundwater Elevation Contours - October 2018

Figure 6- Groundwater Analytical Results- April 2018

Figure 7- Groundwater Analytical Results- October 2018

Exhibit A- Groundwater Sampling Logs – April 2018 & October 2018

Exhibit B- Groundwater Analytical Data April 2018

Exhibit C- Groundwater Analytical Data October 2018



Tables

**Table 1**  
**Monitoring Well Construction Details**  
**Hemphill Road Industrial Land**  
**Burton, Michigan**

Well	Completion Date	Installed By: Consultant/ Driller	Total Well Depth *	Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Casing Diameter (inches)	Screened Interval Elevations	Estimated Sand/Gravel Pack Elevations
OBG MW-1S	29-Nov-10	O'Brien & Gere / Boart Longyear	27.20	774.9	777.64	2	755.44-750.44	757.44-749.44
OBG MW-2S	30-Nov-10	O'Brien & Gere / Boart Longyear	20.30	772.9	775.33	2	760.03-755.03	762.03-754.03
OBG MW-2D	30-Nov-10	O'Brien & Gere / Boart Longyear	38.50	772.8	775.19	2	741.69-736.69	743.69-735.69
OBG MW-3	30-Nov-10	O'Brien & Gere / Boart Longyear	27.70	774.3	777.31**	2	754.54-749.54	756.54-748.54
OBG MW-4S	30-Nov-10	O'Brien & Gere / Boart Longyear	27.70	766.3	769.15	2	746.45-741.45	748.45-740.45
OBG MW-5S	1-Dec-10	O'Brien & Gere / Boart Longyear	20.30	768.5	771.00	2	755.7-750.7	757.7-749.7
OBG MW-6S	1-Dec-10	O'Brien & Gere / Boart Longyear	19.10	769.70	772.70	2	758.6-753.6	760.6-752.6
OBG MW-6D	1-Dec-10	O'Brien & Gere / Boart Longyear	44.40	769.65	772.69	2	733.29-728.29	735.29-727.29
OBG MW-7S	2-Dec-10	O'Brien & Gere / Boart Longyear	17.70	763.56	766.30	2	753.6-748.6	755.6-747.6
OBG MW-7D	2-Dec-10	O'Brien & Gere / Boart Longyear	47.80	763.55	766.36	2	723.56-718.56	725.56-717.56
OBG MW-8	9-Jun-16	O'Brien & Gere / Stock	22.46	768.14	771.21	2	759.23- 749.23	761.14-749.14
OBG MW-9	9-Jun-16	O'Brien & Gere / Stock	22.65	767.91	770.93	2	758.78-748.78	760.91-748.91
OBG MW-10	9-Jun-16	O'Brien & Gere / Stock	21.00	766.17	768.96	2	758.5-748.5	760.17- 748.17
OBG MW-11	9-Jun-16	O'Brien & Gere / Stock	20.00	772.60	775.64	2	762.6- 752.6	764.6-744.6
OBG OS MW-1	11-Nov-13	O'Brien & Gere / Cascade	30.15	774.09	776.57	2	756.42-746.42	754.42-745.42
OBG OS MW-2	11-Nov-13	O'Brien & Gere / Cascade	30.29	774.02	776.67	2	756.38-746.38	754.38-744.42
OBG OS MW-3	9-Jun-14	O'Brien & Gere / Cascade	30.29	779.78	782.89	2	762.59-752.59	764.59-751.59
OBG OS MW-4	9-Jun-14	O'Brien & Gere / Cascade	27.76	776.09	779.00	2	761.20-751.20	763.20-750.20
OBG OS MW-5	10-Jun-14	O'Brien & Gere / Cascade	28.15	776.45	779.38	2	761.18-751.18	763.18-750.18

## Notes:

- 1) ft amsl - feet above mean sea level (NGVD 1929)
- 2) ft TOC - feet below Top of Casing
- 3) Wells are polyvinylchloride (PVC), schedule 40, screen slot size 0.010 inch.
- 4) \* - Total well depth as measured from TOC  
Elevation referenced to NGVD 1929
- 5) \*\* - OBG MW-3 was repaired, and the TOC resurveyed, on 9/2/2011.

**Table 2**  
**Groundwater Elevation Data**  
**Hemphill Road Industrial Land**  
**Burton, Michigan**

Well	Top of Casing Elevation (ft amsl)	Depth To Water 12/20/2010 (ft btoc)	Static Water Elevation 12/20/2010 (ft amsl)	Depth To Water 2/25/2011 (ft btoc)	Static Water Elevation 2/25/2011 (ft amsl)	Depth To Water 3/22/2012 (ft btoc)	Static Water Elevation 3/22/2012 (ft amsl)	Depth To Water 6/13/2012 (ft btoc)	Static Water Elevation 6/13/2012 (ft amsl)	Depth To Water 9/20/2012 (ft btoc)	Static Water Elevation 9/20/2012 (ft amsl)	Depth To Water 12/18/2012 (ft btoc)	Static Water Elevation 12/18/2012 (ft amsl)	Depth To Water 4/16/2013 (ft btoc)	Static Water Elevation 4/16/2013 (ft amsl)
OBG MW-1S	777.64	13.80	763.84	13.50	764.14	12.47	765.17	12.70	764.94	13.03	764.61	13.18	764.46	12.28	765.36
OBG MW-2S	775.33	11.59	763.74	11.02	764.31	10.41	764.92	10.45	764.88	10.26	765.07	11.03	764.30	9.76	765.57
OBG MW-2D	775.19	22.02	753.17	21.80	753.39	20.16	755.03	20.45	754.74	22.34	752.85	21.26	753.93	20.57	754.62
OBG MW-3 **	777.31	23.00	754.24	22.95	754.29	22.72	754.59	22.69	754.62	22.69	754.62	22.87	754.44	22.77	754.54
OBG MW-4S	769.15	--	--	--	--	14.30	754.85	14.55	754.60	14.52	754.63	14.6	754.57	14.35	754.80
OBG MW-5S	771.00	15.97	755.03	15.80	755.20	15.48	755.52	15.75	755.25	15.80	755.20	15.93	755.07	15.47	755.53
OBG MW-6S	772.70	14.72	757.98	14.18	758.52	13.81	758.89	14.31	758.39	14.84	757.86	14.62	758.08	12.42	760.28
OBG MW-6D	772.69	19.61	753.08	19.46	753.23	17.99	754.70	18.51	754.18	20.11	752.58	18.96	753.73	18.04	754.65
OBG MW-7S	766.30	8.68	757.62	8.10	758.20	8.12	758.18	8.36	757.94	8.59	757.71	8.37	757.93	7.26	759.04
OBG MW-7D	766.36	14.40	751.96	14.23	752.13	12.55	753.81	13.09	753.27	14.70	751.66	13.73	752.63	12.95	753.41
OBG MW-8	771.21													--	--
OBG MW-9	770.93													--	--
OBG MW-10	768.96													--	--
OBG MW-11	775.64													--	--
OBG OS MW-1	776.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OBG OS MW-2	776.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OBG OS MW-3	782.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OBG OS MW-4	779.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OBG OS MW-5	779.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

- 1) ft amsl - feet above mean sea level (NGVD 1929).
- 2) ft btoc - feet below top of casing.
- 3) --' denotes depth to water not collected.
- 4) \*\* - OBG MW-3 was repaired, and the TOC resurveyed, on 9/2/2011.  
The previous TOC was 777.24.

**Table 2**  
**Groundwater Elevation Data**  
**Hemphill Road Industrial Land**  
**Burton, Michigan**

Well	Top of Casing Elevation (ft amsl)	Depth To Water 10/15/2013 (ft btoc)	Static Water Elevation 10/15/2013 (ft amsl)	Depth To Water 12/10/2013 (ft btoc)	Static Water Elevation 12/10/2013 (ft amsl)	Depth To Water 4/24/2014 (ft btoc)	Static Water Elevation 4/24/2014 (ft amsl)	Depth To Water 7/2/2014 (ft btoc)	Static Water Elevation 7/2/2014 (ft amsl)	Depth To Water 7/28/2014 (ft btoc)	Static Water Elevation 7/28/2014 (ft amsl)	Depth To Water 9/11/2014 (ft btoc)	Static Water Elevation 9/11/2014 (ft amsl)	Depth To Water 5/28/2015 (ft btoc)	Static Water Elevation 5/28/2015 (ft amsl)
OBG MW-1S	777.64	13.60	764.04	--	--	12.69	764.95	--	--	--	--	12.44	765.20	12.64	765.00
OBG MW-2S	775.33	11.48	763.85	--	--	10.32	765.01	--	--	--	--	10.29	765.04	10.59	764.74
OBG MW-2D	775.19	21.28	753.91	--	--	20.21	754.98	--	--	--	--	20.42	754.77	19.90	755.29
OBG MW-3 **	777.31	22.78	754.53	--	--	22.73	754.58	--	--	--	--	22.54	754.77	22.85	754.46
OBG MW-4S	769.15	--	--	--	--	--	--	--	--	--	--	14.6	754.58	--	--
OBG MW-5S	771.00	15.80	755.20	--	--	15.59	755.41	--	--	--	--	15.84	755.16	15.61	755.39
OBG MW-6S	772.70	14.94	757.76	--	--	13.79	758.91	--	--	--	--	14.49	758.21	14.22	758.48
OBG MW-6D	772.69	19.21	753.48	--	--	18.10	754.59	--	--	--	--	18.06	754.63	17.54	755.15
OBG MW-7S	766.30	8.85	757.45	--	--	7.81	758.49	--	--	--	--	8.37	757.93	8.25	758.05
OBG MW-7D	766.36	13.93	752.43	--	--	12.64	753.72	--	--	--	--	12.91	753.45	12.35	754.01
OBG MW-8	771.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OBG MW-9	770.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OBG MW-10	768.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OBG MW-11	775.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OBG OS MW-1	776.57	--	--	22.10	754.47	--	--	--	--	--	--	22.17	754.40	21.95	754.62
OBG OS MW-2	776.67	--	--	21.43	755.24	--	--	--	--	--	--	21.58	755.09	21.34	755.33
OBG OS MW-3	782.89	--	--	--	--	--	--	25.39	757.50	25.52	757.37	25.89	757.00	25.99	756.90
OBG OS MW-4	779.00	--	--	--	--	--	--	24.29	754.71	24.34	754.66	24.48	754.52	24.40	754.60
OBG OS MW-5	779.38	--	--	--	--	--	--	24.71	754.67	24.79	754.59	24.91	754.47	24.82	754.56

Notes:

- 1) ft amsl - feet above mean sea level (NGVD 1929).
- 2) ft btoc - feet below top of casing.
- 3) --' denotes depth to water not collected.
- 4) \*\* - OBG MW-3 was repaired, and the TOC resurveyed, on 9/2/2011.  
The previous TOC was 777.24.
- 5) Water levels from newly installed wells OBG MW-8/9/10/11 collected on 9/9/2016.

**Table 2**  
**Groundwater Elevation Data**  
**Hemphill Road Industrial Land**  
**Burton, Michigan**

Well	Top of Casing Elevation (ft amsl)	Depth To Water 10/29/2015 (ft btoc)	Static Water Elevation 10/29/2015 (ft amsl)	Depth To Water 4/14/2016 (ft btoc)	Static Water Elevation 4/14/2016 (ft amsl)	Depth To Water 9/9/2016 (ft btoc)	Static Water Elevation 9/9/2016 (ft amsl)	Depth To Water 10/21/2016 (ft btoc)	Static Water Elevation 10/21/2016 (ft amsl)	Depth To Water 4/10/2016 (ft btoc)	Static Water Elevation 4/10/2016 (ft amsl)	Depth To Water 10/17/2017 (ft btoc)	Static Water Elevation 10/17/2017 (ft amsl)	Depth To Water 4/17/2018 (ft btoc)	Static Water Elevation 4/17/2018 (ft amsl)	Depth To Water 10/15/2018 (ft btoc)	Static Water Elevation 10/15/2018 (ft amsl)
OBG MW-1S	777.64	12.75	764.89	11.45	766.19	--	--	12.89	764.75	11.28	766.36	13.05	764.59	11.08	766.56	12.35	765.29
OBG MW-2S	775.33	10.77	764.56	9.16	766.17	--	--	10.38	764.95	8.83	766.50	10.93	764.40	8.91	766.42	10.19	765.14
OBG MW-2D	775.19	19.94	755.25	18.83	756.36	--	--	21.02	754.17	18.83	756.36	20.65	754.54	18.94	756.25	20.14	755.05
OBG MW-3 **	777.31	22.77	754.54	22.47	754.84	--	--	23.05	754.26	23.00	754.31	23.15	754.16	22.93	754.38	23.23	754.08
OBG MW-4S	769.15	--	--	--	--	--	--	--	--	13.90	755.25	14.55	754.60	13.85	755.30	14.29	754.86
OBG MW-5S	771.00	15.40	755.60	15.17	755.83	--	--	15.80	755.20	14.90	756.10	15.91	755.09	15.20	755.80	15.66	755.34
OBG MW-6S	772.70	14.72	757.98	12.70	760.00	--	--	14.53	758.17	11.71	760.99	14.90	757.80	12.36	760.34	14.38	758.32
OBG MW-6D	772.69	17.70	754.99	16.99	755.70	--	--	17.96	754.73	16.60	756.09	18.30	754.39	16.70	755.99	17.95	754.74
OBG MW-7S	766.30	8.43	757.87	7.27	759.03	--	--	8.14	758.16	6.70	759.60	8.17	758.13	6.55	759.75	8.13	758.17
OBG MW-7D	766.36	12.44	753.92	11.35	755.01	--	--	13.47	752.89	11.34	755.02	13.51	752.85	11.43	754.93	12.56	753.80
OBG MW-8	771.21	--	--	--	--	16.30	754.91	--	--	15.08	756.13	16.40	754.81	15.16	756.05	15.63	755.58
OBG MW-9	770.93	--	--	--	--	16.42	754.51	--	--	14.45	756.48	16.19	754.74	14.44	756.49	15.65	755.28
OBG MW-10	768.96	--	--	--	--	--	--	--	--	12.99	755.97	14.30	754.66	12.99	755.97	13.61	755.35
OBG MW-11	775.64	--	--	--	--	18.30	757.34	--	--	15.79	759.85	17.90	757.74	16.29	759.35	17.15	758.49
OBG OS MW-1	776.57	22.24	754.33	21.40	755.17	--	--	21.71	754.86	21.25	755.32	22.10	754.47	21.29	755.28	21.98	754.59
OBG OS MW-2	776.67	21.73	754.94	20.49	756.18	--	--	21.18	755.49	20.34	756.33	21.48	755.19	20.30	756.37	21.24	755.43
OBG OS MW-3	782.89	26.06	756.83	25.10	757.79	--	--	26.33	756.56	24.76	758.13	26.35	756.54	25.05	757.84	26.16	756.73
OBG OS MW-4	779.00	24.25	754.75	23.91	755.09	--	--	24.52	754.48	23.85	755.15	24.70	754.30	23.99	755.01	24.61	754.39
OBG OS MW-5	779.38	24.67	754.71	24.33	755.05	--	--	24.94	754.44	24.25	755.13	25.06	754.32	24.36	755.02	24.97	754.41

Notes:

- 1) ft amsl - feet above mean sea level (NGVD 1929).
- 2) ft btoc - feet below top of casing.
- 3) --' denotes depth to water not collected.
- 4) \*\* - OBG MW-3 was repaired, and the TOC resurveyed, on 9/2/2011.  
The previous TOC was 777.24.
- 5) Water levels from newly installed wells OBG MW-8/9/10/11 collected on 9/9/2016.

**Table 3**  
**Groundwater Analytical Results - April 2018**  
**Hemphill Road Industrial Land**  
**Burton, Michigan**

Monitoring Well Sample Date	Onsite Wells										MDEQ Part 201 Generic Criteria	
	OBG MW-1S 4/17/2018		OBG MW-2S 4/17/2018		OBG MW-2D 4/17/2018		OBG MW-3 4/18/2018		*OBG MW-5S 4/18/2018		Residential Drinking Water	Non-Residential Drinking Water
	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Arsenic	<2	<2	13	11	23	22	8	5	4	4	10 (A)	10 (A)
Barium	158	152	160	161	245	242	124	119	1,190	1,180	2,000 (A)	2,000 (A)
Lead	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	4.0 (L)	4.0 (L)
Selenium	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	50 (A)	50 (A)
Zinc	<5	<5	<5	<5	<5	<5	<5	<5	13	<5	2,400	5,000 (E)
Diethyl ether	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	10 (E)	10 (E)
Acetone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	730	2,100
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA
Carbon disulfide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	800	2,300
tert-Methyl butyl ether (MTBE)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	40 (E)	40 (E)
Acrylonitrile	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	2.6	11
2-Butanone (MEK)	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	13,000	38,000
Dichlorodifluoromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1,700	4,800
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	260	1,100
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.0 (A)	2.0 (A)
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	10	29
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	430	1700
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2,600	7,300
1,1-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	7 (A)	7 (A)
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5 (A)	5 (A)
trans-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	100 (A)	100 (A)
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	880	2,500
cis-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	70 (A)	70 (A)
Tetrahydrofuran	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	95	270
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	200 (A)	200 (A)
4-Methyl-2-pentanone (MIBK)	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	1,800	5,200
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	1,000	2,900
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)
Trichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	80	230
cis-1,3-Dichloropropene <sup>3</sup>	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8.5	35
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	790 (E)	790 (E)
trans-1,3-Dichloropropene <sup>3</sup>	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8.5	35
1,1,2-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5.0 (A)	5.0 (A)
Tetrachloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5.0 (A)	5.0 (A)
trans-1,4-Dichloro-2-butene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	na	na
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	80 (A,W)	80 (A,W)
1,2-Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.05 (A)	0.05 (A)
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	100 (A)	100 (A)
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	77	320
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	74 (E)	74 (E)
p,m-Xylene <sup>4</sup>	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	280 (E)	280 (E)
o-Xylene <sup>4</sup>	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	280 (E)	280 (E)
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	100 (A)	100 (A)
Isopropylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	800	2,300
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8.5	35
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	42	120
n-Propylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80	230
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	18	50
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	72 (E)	72 (E)
tert-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80	230
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	63 (E)	63 (E)
sec-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80	230
p-Isopropyltoluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA
1,3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	6.6	19
1,4-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	1	1	75 (A)	75 (A)
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	600 (A)	600 (A)
1,2,3-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA
n-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80	230
Hexachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7.3	21
1,2-Dibromo-3-chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.2 (A)	0.2 (A)
1,2,4-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	70 (A)	70 (A)
1,2,3-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA
Naphthalene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	520	1500
2-Methylnaphthalene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	260	750

See Page 7 for Notes

**Table 3**  
**Groundwater Analytical Results - April 2018**  
**Hemphill Road Industrial Land**  
**Burton, Michigan**

Monitoring Well Sample Date	Onsite Wells (continued)								MDEQ Part 201 Generic Criteria	
	OBG MW-6S 4/17/2018		OBG MW-6D 4/17/2018		OBG MW-7S 4/17/2018		OBG MW-7D 4/17/2018		Residential Drinking Water	Non-Residential Drinking Water
	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Arsenic	7	6	17	18	10	10	29	27	10 (A)	10 (A)
Barium	148	145	77	75	177	175	92	89	2,000 (A)	2,000 (A)
Lead	<3	<3	<3	<3	<3	<3	<3	<3	4.0 (L)	4.0 (L)
Selenium	<5	<5	<5	<5	<5	<5	<5	<5	50 (A)	50 (A)
Zinc	<5	<5	12	5	<5	<5	8	<5	2,400	5,000 (E)
Diethyl ether	<10		<10		<10		<10		10 (E)	10 (E)
Acetone	<50		<50		<50		<50		730	2,100
Methyl iodide	<1		<1		<1		<1		NA	NA
Carbon disulfide	<5		<5		<5		<5		800	2,300
tert-Methyl butyl ether (MTBE)	<5		<5		<5		<5		40 (E)	40 (E)
Acrylonitrile	<2		<2		<2		<2		2.6	11
2-Butanone (MEK)	<25		<25		<25		<25		13,000	38,000
Dichlorodifluoromethane	<5		<5		<5		<5		1,700	4,800
Chloromethane	<5		<5		<5		<5		260	1,100
Vinyl chloride	<1		<1		<1		<1		2.0 (A)	2.0 (A)
Bromomethane	<5		<5		<5		<5		10	29
Chloroethane	<5		<5		<5		<5		430	1700
Trichlorofluoromethane	<1		<1		<1		<1		2,600	7,300
1,1-Dichloroethene	<1		<1		<1		<1		7 (A)	7 (A)
Methylene chloride	<5		<5		<5		<5		5 (A)	5 (A)
trans-1,2-Dichloroethene	<1		<1		<1		<1		100 (A)	100 (A)
1,1-Dichloroethane	<1		<1		<1		<1		880	2,500
cis-1,2-Dichloroethene	<1		<1		<1		<1		70 (A)	70 (A)
Tetrahydrofuran	<90		<90		<90		<90		95	270
Chloroform	<1		<1		<1		<1		80 (A,W)	80 (A,W)
Bromochloromethane	<1		<1		<1		<1		NA	NA
1,1,1-Trichloroethane	<1		<1		<1		<1		200 (A)	200 (A)
4-Methyl-2-pentanone (MIBK)	<50		<50		<50		<50		1,800	5,200
2-Hexanone	<50		<50		<50		<50		1,000	2,900
Carbon tetrachloride	<1		<1		<1		<1		5 (A)	5 (A)
Benzene	<1		<1		<1		<1		5 (A)	5 (A)
1,2-Dichloroethane	<1		<1		<1		<1		5 (A)	5 (A)
Trichloroethene	<1		<1		<1		<1		5 (A)	5 (A)
1,2-Dichloropropane	<1		<1		<1		<1		5 (A)	5 (A)
Bromodichloromethane	<1		<1		<1		<1		80 (A,W)	80 (A,W)
Dibromomethane	<5		<5		<5		<5		80	230
cis-1,3-Dichloropropene <sup>3</sup>	<1		<1		<1		<1		8.5	35
Toluene	<1		<1		<1		<1		790 (E)	790 (E)
trans-1,3-Dichloropropene <sup>3</sup>	<1		<1		<1		<1		8.5	35
1,1,2-Trichloroethane	<1		<1		<1		<1		5.0 (A)	5.0 (A)
Tetrachloroethene	<1		<1		<1		<1		5.0 (A)	5.0 (A)
trans-1,4-Dichloro-2-butene	<1		<1		<1		<1		na	na
Dibromochloromethane	<5		<5		<5		<5		80 (A,W)	80 (A,W)
1,2-Dibromomethane	<1		<1		<1		<1		0.05 (A)	0.05 (A)
Chlorobenzene	<1		<1		<1		<1		100 (A)	100 (A)
1,1,1,2-Tetrachloroethane	<1		<1		<1		<1		77	320
Ethylbenzene	<1		<1		<1		<1		74 (E)	74 (E)
p,m-Xylene <sup>4</sup>	<2		<2		<2		<2		280 (E)	280 (E)
o-Xylene <sup>4</sup>	<1		<1		<1		<1		280 (E)	280 (E)
Styrene	<1		<1		<1		<1		100 (A)	100 (A)
Isopropylbenzene	<5		<5		<5		<5		800	2,300
Bromoform	<1		<1		<1		<1		80 (A,W)	80 (A,W)
1,1,2,2-Tetrachloroethane	<1		<1		<1		<1		8.5	35
1,2,3-Trichloropropane	<1		<1		<1		<1		42	120
n-Propylbenzene	<1		<1		<1		<1		80	230
Bromobenzene	<1		<1		<1		<1		18	50
1,3,5-Trimethylbenzene	<1		3		<1		2		72 (E)	72 (E)
tert-Butylbenzene	<1		<1		<1		<1		80	230
1,2,4-Trimethylbenzene	<1		8		<1		6		63 (E)	63 (E)
sec-Butylbenzene	<1		<1		<1		<1		80	230
p-Isopropyltoluene	<5		<5		<5		<5		NA	NA
1,3-Dichlorobenzene	<1		<1		<1		<1		6.6	19
1,4-Dichlorobenzene	<1		<1		<1		<1		75 (A)	75 (A)
1,2-Dichlorobenzene	<1		<1		<1		<1		600 (A)	600 (A)
1,2,3-Trimethylbenzene	<1		7		<1		5		NA	NA
n-Butylbenzene	<1		<1		<1		<1		80	230
Hexachloroethane	<5		<5		<5		<5		7.3	21
1,2-Dibromo-3-chloropropane	<5		<5		<5		<5		0.2 (A)	0.2 (A)
1,2,4-Trichlorobenzene	<5		<5		<5		<5		70 (A)	70 (A)
1,2,3-Trichlorobenzene	<5		<5		<5		<5		NA	NA
Naphthalene	<5		<5		<5		<5		520	1500
2-Methylnaphthalene	<5		<5		<5		<5		260	750

See Page 7 for Notes

**Table 3**  
**Groundwater Analytical Results - April 2018**  
**Hemphill Road Industrial Land**  
**Burton, Michigan**

Monitoring Well Sample Date	Offsite Wells										MDEQ Part 201 Generic Criteria	
	*OBG OS-MW-1 4/18/2018		*OBG OS-MW-2 4/18/2018		*OBG OS-MW-3 4/18/2018		*OBG OS-MW-4 4/18/2018		*OBG OS-MW-5 4/18/2018		Residential Drinking Water	Non-Residential Drinking Water
	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Arsenic	37	37	49	42	21	20	2	2	<2	<2	10 (A)	10 (A)
Barium	926	927	242	239	160	160	1,290	1,280	2,400	2,260	2,000 (A)	2,000 (A)
Lead	<3	<3	5	<3	<3	<3	3	<3	5	<3	4.0 (L)	4.0 (L)
Selenium	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	50 (A)	50 (A)
Zinc	<5	<5	14	<5	<5	<5	<5	<5	7	5	2,400	5,000 (E)
Diethyl ether	<10		<10		<10		<10		<10		10 (E)	10 (E)
Acetone	<50		<50		<50		<50		<50		730	2,100
Methyl iodide	<1		<1		<1		<1		<1		NA	NA
Carbon disulfide	<5		<5		<5		<5		<5		800	2,300
tert-Methyl butyl ether (MTBE)	<5		<5		<5		<5		<5		40 (E)	40 (E)
Acrylonitrile	<2		<2		<2		<2		<2		2.6	11
2-Butanone (MEK)	<25		<25		<25		<25		<25		13,000	38,000
Dichlorodifluoromethane	<5		<5		<5		<5		<5		1,700	4,800
Chloromethane	<5		<5		<5		<5		<5		260	1,100
Vinyl chloride	<1		<1		<1		<1		<1		2.0 (A)	2.0 (A)
Bromomethane	<5		<5		<5		<5		<5		10	29
Chloroethane	<5		<5		<5		<5		7		430	1700
Trichlorofluoromethane	<1		<1		<1		<1		<1		2,600	7,300
1,1-Dichloroethene	<1		<1		<1		<1		<1		7 (A)	7 (A)
Methylene chloride	<5		<5		<5		<5		<5		5 (A)	5 (A)
trans-1,2-Dichloroethene	<1		<1		<1		<1		<1		100 (A)	100 (A)
1,1-Dichloroethane	<1		<1		<1		<1		<1		880	2,500
cis-1,2-Dichloroethene	<1		<1		<1		<1		<1		70 (A)	70 (A)
Tetrahydrofuran	<90		<90		<90		<90		<90		95	270
Chloroform	<1		<1		<1		<1		<1		80 (A,W)	80 (A,W)
Bromochloromethane	<1		<1		<1		<1		<1		NA	NA
1,1,1-Trichloroethane	<1		<1		<1		<1		<1		200 (A)	200 (A)
4-Methyl-2-pentanone (MIBK)	<50		<50		<50		<50		<50		1,800	5,200
2-Hexanone	<50		<50		<50		<50		<50		1,000	2,900
Carbon tetrachloride	<1		<1		<1		<1		<1		5 (A)	5 (A)
Benzene	<1		<1		<1		<1		<1		5 (A)	5 (A)
1,2-Dichloroethane	<1		<1		<1		<1		<1		5 (A)	5 (A)
Trichloroethene	<1		<1		<1		<1		<1		5 (A)	5 (A)
1,2-Dichloropropane	<1		<1		<1		<1		<1		5 (A)	5 (A)
Bromodichloromethane	<1		<1		<1		<1		<1		80 (A,W)	80 (A,W)
Dibromomethane	<5		<5		<5		<5		<5		80	230
cis-1,3-Dichloropropene <sup>3</sup>	<1		<1		<1		<1		<1		8.5	35
Toluene	<1		<1		<1		<1		<1		790 (E)	790 (E)
trans-1,3-Dichloropropene <sup>3</sup>	<1		<1		<1		<1		<1		8.5	35
1,1,2-Trichloroethane	<1		<1		<1		<1		<1		5.0 (A)	5.0 (A)
Tetrachloroethene	<1		<1		<1		<1		<1		5.0 (A)	5.0 (A)
trans-1,4-Dichloro-2-butene	<1		<1		<1		<1		<1		na	na
Dibromochloromethane	<5		<5		<5		<5		<5		80 (A,W)	80 (A,W)
1,2-Dibromomethane	<1		<1		<1		<1		<1		0.05 (A)	0.05 (A)
Chlorobenzene	<1		<1		<1		8		<1		100 (A)	100 (A)
1,1,1,2-Tetrachloroethane	<1		<1		<1		<1		<1		77	320
Ethylbenzene	<1		<1		<1		1		<1		74 (E)	74 (E)
p,m-Xylene <sup>4</sup>	<2		<2		<2		2		<2		280 (E)	280 (E)
o-Xylene <sup>4</sup>	<1		<1		<1		1		<1		280 (E)	280 (E)
Styrene	<1		<1		<1		<1		<1		100 (A)	100 (A)
Isopropylbenzene	<5		<5		<5		6		<5		800	2,300
Bromoform	<1		<1		<1		<1		<1		80 (A,W)	80 (A,W)
1,1,2,2-Tetrachloroethane	<1		<1		<1		<1		<1		8.5	35
1,2,3-Trichloropropane	<1		<1		<1		<1		<1		42	120
n-Propylbenzene	<1		<1		<1		9		<1		80	230
Bromobenzene	<1		<1		<1		<1		<1		18	50
1,3,5-Trimethylbenzene	<1		<1		<1		<1		<1		72 (E)	72 (E)
tert-Butylbenzene	<1		<1		<1		<1		<1		80	230
1,2,4-Trimethylbenzene	<1		<1		<1		4		<1		63 (E)	63 (E)
sec-Butylbenzene	<1		<1		<1		2		<1		80	230
p-Isopropyltoluene	<5		<5		<5		<5		<5		NA	NA
1,3-Dichlorobenzene	<1		<1		<1		<1		<1		6.6	19
1,4-Dichlorobenzene	<1		<1		<1		5		3		75 (A)	75 (A)
1,2-Dichlorobenzene	<1		<1		<1		<1		<1		600 (A)	600 (A)
1,2,3-Trimethylbenzene	<1		<1		<1		4		<1		NA	NA
n-Butylbenzene	<1		<1		<1		1		<1		80	230
Hexachloroethane	<5		<5		<5		<5		<5		7.3	21
1,2-Dibromo-3-chloropropane	<5		<5		<5		<5		<5		0.2 (A)	0.2 (A)
1,2,4-Trichlorobenzene	<5		<5		<5		<5		<5		70 (A)	70 (A)
1,2,3-Trichlorobenzene	<5		<5		<5		<5		<5		NA	NA
Naphthalene	<5		<5		<5		53		<5		520	1500
2-Methylnaphthalene	<5		<5		<5		48		<5		260	750

See Page 7 for Notes

**Table 3**  
**Groundwater Analytical Results - October 2018**  
**Hemphill Road Industrial Land**  
**Burton, Michigan**

Monitoring Well Sample Date	Onsite Wells										MDEQ Part 201 Generic Criteria	
	OBG MW-1S 10/15/2018		OBG MW-2S 10/16/2018		OBG MW-2D 10/16/2018		OBG MW-3 10/16/2018		*OBG MW-5S 10/16/2018		Residential Drinking Water	Non-Residential Drinking Water
	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Arsenic	2	2	30	28	41	41	7	4	5	3	10 (A)	10 (A)
Barium	157	155	170	167	256	252	184	172	1,160	1,160	2,000 (A)	2,000 (A)
Lead	<3	<3	<3	<3	<3	<3	<3	<3	4	<3	4.0 (L)	4.0 (L)
Selenium	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	50 (A)	50 (A)
Zinc	<5	<5	<5	<5	<5	<5	<5	<5	17	<5	2,400	5,000 (E)
Diethyl ether	<10		<10		<10		<10		<10		10 (E)	10 (E)
Acetone	<50		<50		<50		<50		<50		730	2,100
Methyl iodide	<1		<1		<1		<1		<1		NA	NA
Carbon disulfide	<5		<5		<5		<5		<5		800	2,300
tert-Methyl butyl ether (MTBE)	<5		<5		<5		<5		<5		40 (E)	40 (E)
Acrylonitrile	<2		<2		<2		<2		<2		2.6	11
2-Butanone (MEK)	<25		<25		<25		<25		<25		13,000	38,000
Dichlorodifluoromethane	<5		<5		<5		<5		<5		1,700	4,800
Chloromethane	<5		<5		<5		<5		<5		260	1,100
Vinyl chloride	<1		<1		<1		<1		<1		2.0 (A)	2.0 (A)
Bromomethane	<5		<5		<5		<5		<5		10	29
Chloroethane	<5		<5		<5		<5		<5		430	1700
Trichlorofluoromethane	<1		<1		<1		<1		<1		2,600	7,300
1,1-Dichloroethene	<1		<1		<1		<1		<1		7 (A)	7 (A)
Methylene chloride	<5		<5		<5		<5		<5		5 (A)	5 (A)
trans-1,2-Dichloroethene	<1		<1		<1		<1		<1		100 (A)	100 (A)
1,1-Dichloroethane	<1		<1		<1		<1		<1		880	2,500
cis-1,2-Dichloroethene	<1		<1		<1		<1		<1		70 (A)	70 (A)
Tetrahydrofuran	<90		<90		<90		<90		<90		95	270
Chloroform	<1		<1		<1		<1		<1		80 (A,W)	80 (A,W)
Bromochloromethane	<1		<1		<1		<1		<1		NA	NA
1,1,1-Trichloroethane	<1		<1		<1		<1		<1		200 (A)	200 (A)
4-Methyl-2-pentanone (MIBK)	<50		<50		<50		<50		<50		1,800	5,200
2-Hexanone	<50		<50		<50		<50		<50		1,000	2,900
Carbon tetrachloride	<1		<1		<1		<1		<1		5 (A)	5 (A)
Benzene	<1		<1		<1		<1		<1		5 (A)	5 (A)
1,2-Dichloroethane	<1		<1		<1		<1		<1		5 (A)	5 (A)
Trichloroethene	<1		<1		<1		<1		<1		5 (A)	5 (A)
1,2-Dichloropropane	<1		<1		<1		<1		<1		5 (A)	5 (A)
Bromodichloromethane	<1		<1		<1		<1		<1		80 (A,W)	80 (A,W)
Dibromomethane	<5		<5		<5		<5		<5		80	230
cis-1,3-Dichloropropene <sup>3</sup>	<1		<1		<1		<1		<1		8.5	35
Toluene	<1		<1		<1		<1		<1		790 (E)	790 (E)
trans-1,3-Dichloropropene <sup>3</sup>	<1		<1		<1		<1		<1		8.5	35
1,1,2-Trichloroethane	<1		<1		<1		<1		<1		5.0 (A)	5.0 (A)
Tetrachloroethene	<1		<1		<1		<1		<1		5.0 (A)	5.0 (A)
trans-1,4-Dichloro-2-butene	<1		<1		<1		<1		<1		na	na
Dibromochloromethane	<5		<5		<5		<5		<5		80 (A,W)	80 (A,W)
1,2-Dibromomethane	<1		<1		<1		<1		<1		0.05 (A)	0.05 (A)
Chlorobenzene	<1		<1		<1		<1		<1		100 (A)	100 (A)
1,1,1,2-Tetrachloroethane	<1		<1		<1		<1		<1		77	320
Ethylbenzene	<1		<1		<1		<1		<1		74 (E)	74 (E)
p,m-Xylene <sup>4</sup>	<2		<2		<2		<2		<2		280 (E)	280 (E)
o-Xylene <sup>4</sup>	<1		<1		<1		<1		<1		280 (E)	280 (E)
Styrene	<1		<1		<1		<1		<1		100 (A)	100 (A)
Isopropylbenzene	<5		<5		<5		<5		<5		800	2,300
Bromoform	<1		<1		<1		<1		<1		80 (A,W)	80 (A,W)
1,1,2,2-Tetrachloroethane	<1		<1		<1		<1		<1		8.5	35
1,2,3-Trichloropropane	<1		<1		<1		<1		<1		42	120
n-Propylbenzene	<1		<1		<1		<1		<1		80	230
Bromobenzene	<1		<1		<1		<1		<1		18	50
1,3,5-Trimethylbenzene	<1		<1		<1		<1		<1		72 (E)	72 (E)
tert-Butylbenzene	<1		<1		<1		<1		<1		80	230
1,2,4-Trimethylbenzene	<1		<1		<1		<1		<1		63 (E)	63 (E)
sec-Butylbenzene	<1		<1		<1		<1		<1		80	230
p-Isopropyltoluene	<5		<5		<5		<5		<5		NA	NA
1,3-Dichlorobenzene	<1		<1		<1		<1		<1		6.6	19
1,4-Dichlorobenzene	<1		<1		<1		<1		1		75 (A)	75 (A)
1,2-Dichlorobenzene	<1		<1		<1		<1		<1		600 (A)	600 (A)
1,2,3-Trimethylbenzene	<1		<1		<1		<1		<1		NA	NA
n-Butylbenzene	<1		<1		<1		<1		<1		80	230
Hexachloroethane	<5		<5		<5		<5		<5		7.3	21
1,2-Dibromo-3-chloropropane	<5		<5		<5		<5		<5		0.2 (A)	0.2 (A)
1,2,4-Trichlorobenzene	<5		<5		<5		<5		<5		70 (A)	70 (A)
1,2,3-Trichlorobenzene	<5		<5		<5		<5		<5		NA	NA
Naphthalene	<5		<5		<5		<5		<5		520	1500
2-Methylnaphthalene	<5		<5		<5		<5		<5		260	750

See Page 7 for Notes

**Table 3**  
**Groundwater Analytical Results - October 2018**  
**Hemphill Road Industrial Land**  
**Burton, Michigan**

Monitoring Well Sample Date	Onsite Wells (continued)								MDEQ Part 201 Generic Criteria	
	OBG MW-6S 10/17/2018		OBG MW-6D 10/16/2018		OBG MW-7S 10/15/2018		OBG MW-7D 10/15/2018		Residential Drinking Water	Non-Residential Drinking Water
	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Arsenic	7	5	19	18	17	14	30	28	10 (A)	10 (A)
Barium	165	161	72	71	214	209	102	94	2,000 (A)	2,000 (A)
Lead	<3	<3	<3	<3	<3	<3	<3	<3	4.0 (L)	4.0 (L)
Selenium	<5	<5	<5	<5	<5	<5	<5	<5	50 (A)	50 (A)
Zinc	<5	<5	<5	<5	<5	<5	7	<5	2,400	5,000 (E)
Diethyl ether	<10		<10		<10		<10		10 (E)	10 (E)
Acetone	<50		<50		<50		<50		730	2,100
Methyl iodide	<1		<1		<1		<1		NA	NA
Carbon disulfide	<5		<5		<5		<5		800	2,300
tert-Methyl butyl ether (MTBE)	<5		<5		<5		<5		40 (E)	40 (E)
Acrylonitrile	<2		<2		<2		<2		2.6	11
2-Butanone (MEK)	<25		<25		<25		<25		13,000	38,000
Dichlorodifluoromethane	<5		<5		<5		<5		1,700	4,800
Chloromethane	<5		<5		<5		<5		260	1,100
Vinyl chloride	<1		<1		<1		<1		2.0 (A)	2.0 (A)
Bromomethane	<5		<5		<5		<5		10	29
Chloroethane	<5		<5		<5		<5		430	1700
Trichlorofluoromethane	<1		<1		<1		<1		2,600	7,300
1,1-Dichloroethene	<1		<1		<1		<1		7 (A)	7 (A)
Methylene chloride	<5		<5		<5		<5		5 (A)	5 (A)
trans-1,2-Dichloroethene	<1		<1		<1		<1		100 (A)	100 (A)
1,1-Dichloroethane	<1		<1		<1		<1		880	2,500
cis-1,2-Dichloroethene	<1		<1		<1		<1		70 (A)	70 (A)
Tetrahydrofuran	<90		<90		<90		<90		95	270
Chloroform	<1		<1		<1		<1		80 (A,W)	80 (A,W)
Bromochloromethane	<1		<1		<1		<1		NA	NA
1,1,1-Trichloroethane	<1		<1		<1		<1		200 (A)	200 (A)
4-Methyl-2-pentanone (MIBK)	<50		<50		<50		<50		1,800	5,200
2-Hexanone	<50		<50		<50		<50		1,000	2,900
Carbon tetrachloride	<1		<1		<1		<1		5 (A)	5 (A)
Benzene	<1		<1		<1		<1		5 (A)	5 (A)
1,2-Dichloroethane	<1		<1		<1		<1		5 (A)	5 (A)
Trichloroethene	<1		<1		<1		<1		5 (A)	5 (A)
1,2-Dichloropropane	<1		<1		<1		<1		5 (A)	5 (A)
Bromodichloromethane	<1		<1		<1		<1		80 (A,W)	80 (A,W)
Dibromomethane	<5		<5		<5		<5		80	230
cis-1,3-Dichloropropene <sup>3</sup>	<1		<1		<1		<1		8.5	35
Toluene	<1		<1		<1		<1		790 (E)	790 (E)
trans-1,3-Dichloropropene <sup>3</sup>	<1		<1		<1		<1		8.5	35
1,1,2-Trichloroethane	<1		<1		<1		<1		5.0 (A)	5.0 (A)
Tetrachloroethene	<1		<1		<1		<1		5.0 (A)	5.0 (A)
trans-1,4-Dichloro-2-butene	<1		<1		<1		<1		na	na
Dibromochloromethane	<5		<5		<5		<5		80 (A,W)	80 (A,W)
1,2-Dibromomethane	<1		<1		<1		<1		0.05 (A)	0.05 (A)
Chlorobenzene	<1		<1		<1		<1		100 (A)	100 (A)
1,1,1,2-Tetrachloroethane	<1		<1		<1		<1		77	320
Ethylbenzene	<1		<1		<1		<1		74 (E)	74 (E)
p,m-Xylene <sup>4</sup>	<2		<2		<2		<2		280 (E)	280 (E)
o-Xylene <sup>4</sup>	<1		<1		<1		<1		280 (E)	280 (E)
Styrene	<1		<1		<1		<1		100 (A)	100 (A)
Isopropylbenzene	<5		<5		<5		<5		800	2,300
Bromoform	<1		<1		<1		<1		80 (A,W)	80 (A,W)
1,1,2,2-Tetrachloroethane	<1		<1		<1		<1		8.5	35
1,2,3-Trichloropropane	<1		<1		<1		<1		42	120
n-Propylbenzene	<1		<1		<1		<1		80	230
Bromobenzene	<1		<1		<1		<1		18	50
1,3,5-Trimethylbenzene	<1		<1		<1		<1		72 (E)	72 (E)
tert-Butylbenzene	<1		<1		<1		<1		80	230
1,2,4-Trimethylbenzene	<1		<1		<1		<1		63 (E)	63 (E)
sec-Butylbenzene	<1		<1		<1		<1		80	230
p-Isopropyltoluene	<5		<5		<5		<5		NA	NA
1,3-Dichlorobenzene	<1		<1		<1		<1		6.6	19
1,4-Dichlorobenzene	<1		<1		<1		<1		75 (A)	75 (A)
1,2-Dichlorobenzene	<1		<1		<1		<1		600 (A)	600 (A)
1,2,3-Trimethylbenzene	<1		<1		<1		<1		NA	NA
n-Butylbenzene	<1		<1		<1		<1		80	230
Hexachloroethane	<5		<5		<5		<5		7.3	21
1,2-Dibromo-3-chloropropane	<5		<5		<5		<5		0.2 (A)	0.2 (A)
1,2,4-Trichlorobenzene	<5		<5		<5		<5		70 (A)	70 (A)
1,2,3-Trichlorobenzene	<5		<5		<5		<5		NA	NA
Naphthalene	<5		<5		<5		<5		520	1500
2-Methylnaphthalene	<5		<5		<5		<5		260	750

See Page 7 for Notes

**Table 3**  
**Groundwater Analytical Results - October 2018**  
**Hemphill Road Industrial Land**  
**Burton, Michigan**

Monitoring Well Sample Date	Offsite Wells										MDEQ Part 201 Generic Criteria	
	*OBG OS-MW-1 10/17/2018		*OBG OS-MW-2 10/17/2018		*OBG OS-MW-3 10/17/2018		*OBG OS-MW-4 10/17/2018		*OBG OS-MW-5 10/17/2018		Residential Drinking Water	Non-Residential Drinking Water
	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved		
Arsenic	34	32	55	52	8	8	2	2	<2	<2	10 (A)	10 (A)
Barium	696	693	253	246	664	652	1,180	1,200	2,210	2,060	2,000 (A)	2,000 (A)
Lead	<3	<3	8	5	<3	<3	<3	<3	<3	<3	4.0 (L)	4.0 (L)
Selenium	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	50 (A)	50 (A)
Zinc	<5	<5	16	12	5	7	<5	<5	<5	<5	2,400	5,000 (E)
Diethyl ether	<10		<10		<10		<10		<10		10 (E)	10 (E)
Acetone	<50		<50		<50		<50		<50		730	2,100
Methyl iodide	<1		<1		<1		<1		<1		NA	NA
Carbon disulfide	<5		<5		<5		<5		<5		800	2,300
tert-Methyl butyl ether (MTBE)	<5		<5		<5		<5		<5		40 (E)	40 (E)
Acrylonitrile	<2		<2		<2		<2		<2		2.6	11
2-Butanone (MEK)	<25		<25		<25		<25		<25		13,000	38,000
Dichlorodifluoromethane	<5		<5		<5		<5		<5		1,700	4,800
Chloromethane	<5		<5		<5		<5		<5		260	1,100
Vinyl chloride	<1		<1		<1		<1		<1		2.0 (A)	2.0 (A)
Bromomethane	<5		<5		<5		<5		<5		10	29
Chloroethane	<5		<5		<5		<5		<5		430	1700
Trichlorofluoromethane	<1		<1		<1		<1		<1		2,600	7,300
1,1-Dichloroethene	<1		<1		<1		<1		<1		7 (A)	7 (A)
Methylene chloride	<5		<5		<5		<5		<5		5 (A)	5 (A)
trans-1,2-Dichloroethene	<1		<1		<1		<1		<1		100 (A)	100 (A)
1,1-Dichloroethane	<1		<1		<1		<1		<1		880	2,500
cis-1,2-Dichloroethene	<1		<1		<1		<1		<1		70 (A)	70 (A)
Tetrahydrofuran	<90		<90		<90		<90		<90		95	270
Chloroform	<1		<1		<1		<1		<1		80 (A,W)	80 (A,W)
Bromochloromethane	<1		<1		<1		<1		<1		NA	NA
1,1,1-Trichloroethane	<1		<1		<1		<1		<1		200 (A)	200 (A)
4-Methyl-2-pentanone (MIBK)	<50		<50		<50		<50		<50		1,800	5,200
2-Hexanone	<50		<50		<50		<50		<50		1,000	2,900
Carbon tetrachloride	<1		<1		<1		<1		<1		5 (A)	5 (A)
Benzene	<1		<1		<1		<1		<1		5 (A)	5 (A)
1,2-Dichloroethane	<1		<1		<1		<1		<1		5 (A)	5 (A)
Trichloroethene	<1		<1		<1		<1		<1		5 (A)	5 (A)
1,2-Dichloropropane	<1		<1		<1		<1		<1		5 (A)	5 (A)
Bromodichloromethane	<1		<1		<1		<1		<1		80 (A,W)	80 (A,W)
Dibromomethane	<5		<5		<5		<5		<5		80	230
cis-1,3-Dichloropropene <sup>3</sup>	<1		<1		<1		<1		<1		8.5	35
Toluene	<1		<1		<1		<1		<1		790 (E)	790 (E)
trans-1,3-Dichloropropene <sup>3</sup>	<1		<1		<1		<1		<1		8.5	35
1,1,2-Trichloroethane	<1		<1		<1		<1		<1		5.0 (A)	5.0 (A)
Tetrachloroethene	<1		<1		<1		<1		<1		5.0 (A)	5.0 (A)
trans-1,4-Dichloro-2-butene	<1		<1		<1		<1		<1		na	na
Dibromochloromethane	<5		<5		<5		<5		<5		80 (A,W)	80 (A,W)
1,2-Dibromomethane	<1		<1		<1		<1		<1		0.05 (A)	0.05 (A)
Chlorobenzene	<1		<1		<1		8		8		100 (A)	100 (A)
1,1,1,2-Tetrachloroethane	<1		<1		<1		<1		<1		77	320
Ethylbenzene	<1		<1		<1		<1		<1		74 (E)	74 (E)
p,m-Xylene <sup>4</sup>	<2		<2		<2		<2		<2		280 (E)	280 (E)
o-Xylene <sup>4</sup>	<1		<1		<1		1		<1		280 (E)	280 (E)
Styrene	<1		<1		<1		<1		<1		100 (A)	100 (A)
Isopropylbenzene	<5		<5		<5		6		<5		800	2,300
Bromoform	<1		<1		<1		<1		<1		80 (A,W)	80 (A,W)
1,1,2,2-Tetrachloroethane	<1		<1		<1		<1		<1		8.5	35
1,2,3-Trichloropropane	<1		<1		<1		<1		<1		42	120
n-Propylbenzene	<1		<1		<1		10		1		80	230
Bromobenzene	<1		<1		<1		<1		<1		18	50
1,3,5-Trimethylbenzene	<1		<1		<1		<1		<1		72 (E)	72 (E)
tert-Butylbenzene	<1		<1		<1		<1		<1		80	230
1,2,4-Trimethylbenzene	<1		<1		<1		3		<1		63 (E)	63 (E)
sec-Butylbenzene	<1		<1		<1		2		<1		80	230
p-Isopropyltoluene	<5		<5		<5		<5		<5		NA	NA
1,3-Dichlorobenzene	<1		<1		<1		<1		<1		6.6	19
1,4-Dichlorobenzene	<1		<1		<1		4		4		75 (A)	75 (A)
1,2-Dichlorobenzene	<1		<1		<1		<1		<1		600 (A)	600 (A)
1,2,3-Trimethylbenzene	<1		<1		<1		3		<1		NA	NA
n-Butylbenzene	<1		<1		<1		1		<1		80	230
Hexachloroethane	<5		<5		<5		<5		<5		7.3	21
1,2-Dibromo-3-chloropropane	<5		<5		<5		<5		<5		0.2 (A)	0.2 (A)
1,2,4-Trichlorobenzene	<5		<5		<5		<5		<5		70 (A)	70 (A)
1,2,3-Trichlorobenzene	<5		<5		<5		<5		<5		NA	NA
Naphthalene	<5		<5		<5		32		<5		520	1500
2-Methylnaphthalene	<5		<5		<5		44		<5		260	750

See Page 7 for Notes

**Table 3**  
**Groundwater Analytical Results**  
**Hemphill Road Industrial Land**  
**Burton, Michigan**

## Notes:

- 1 Units are µg/L.
- 2 \* - indicates monitoring well is screened in fill.
- 3 Criteria are for total 1,3-Dichloropropene, values for cis and trans should be summed and compared against the appropriate criterion.
- 4 Criteria are for total xylenes, values for p,m- and o- should be summed and compared against the appropriate criterion.
- 5 Bolded and highlighted value denotes an analytical value that exceeds criteria or a criterion that has been exceeded.
- 6 (A) - Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.
- 7 Environmental Protection Act, 1994 PA 451, as amended (NREPA).
- 8 (L) - Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(9) of the NREPA.
- 9 (W) - Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 µg/L.
- 10 'na' - means a criterion or value is not available or, in the case of background and CAS numbers, not applicable.



**Figures**

FIGURE 1





I:\Racer-Trust\_15338868544\_Hemphill-2018-6\Docs\Reports\Annual\2018 GWS Report\Figures\001 - Figure 1 - Well Locations.mxd



Notes:  
 1) Monitoring Wells OBG MW-8, OBG MW-9, OBG MW-10, and OBG MW-11 were installed on 6/9/2016.  
 2) This document was developed in color. Reproduction in B/W may not represent the data as intended.  
 3) Background image provided by ESRI.

PLOTDATE: 11/29/17, Schaefer

**LEGEND**

-  MONITORING WELL LOCATION (SCREENED IN NATIVE SOIL)
-  MONITORING WELL LOCATION (SCREENED IN FILL)
-  FENCE LINE
-  HEMPHILL ROAD INDUSTRIAL LAND

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 HEMPHILL ROAD INDUSTRIAL LAND  
 BURTON, MICHIGAN

**MONITORING WELL LOCATIONS**

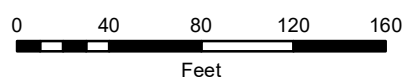
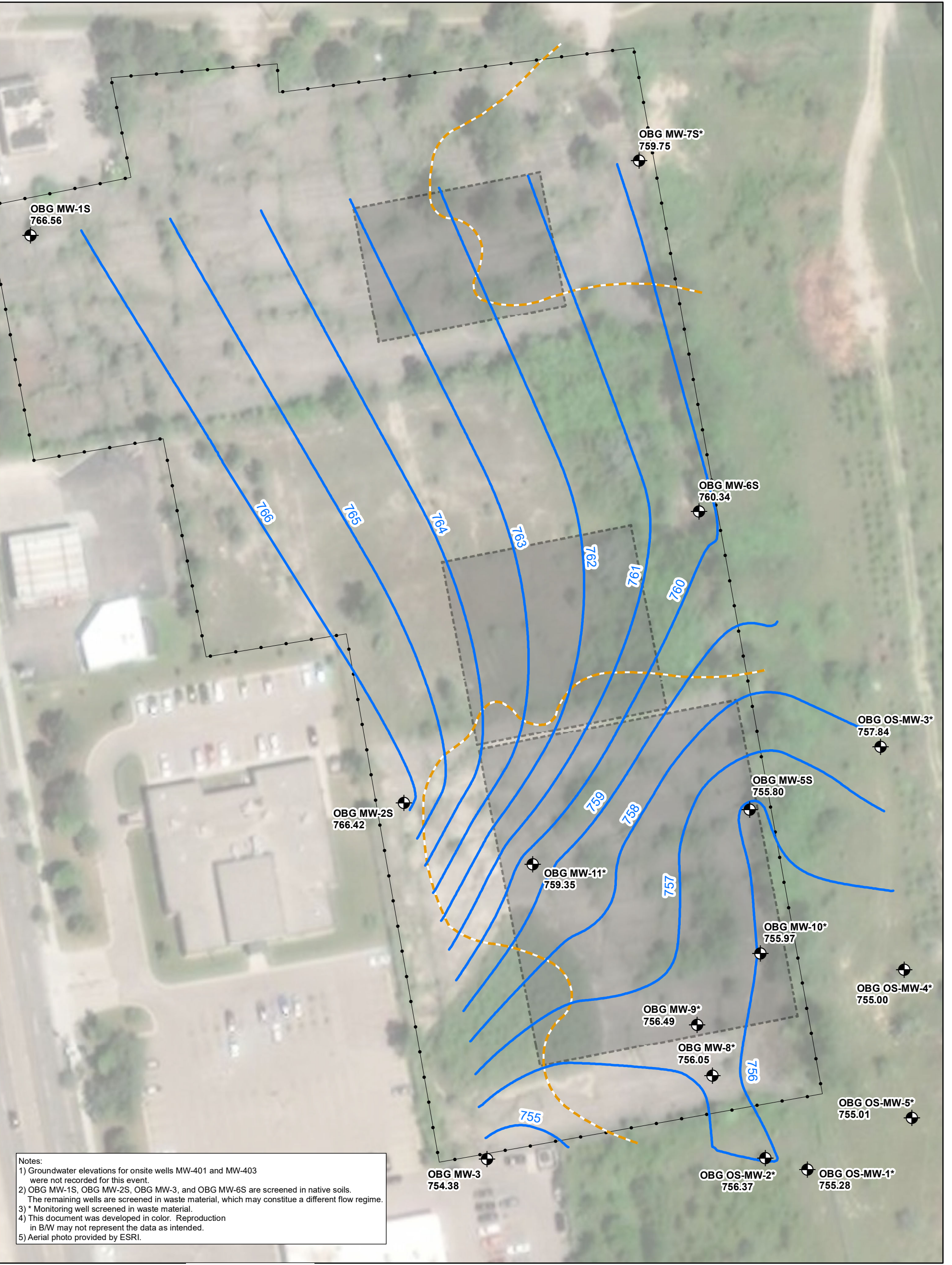


FIGURE 2

I:\Racer-Trust\15388168544\_Hemphill-2018-6\Docs\Reports\Annual\2018\_GWS\_Report\Figures\002 - Figure 2 - Shallow GW Elevation Contours (April 2018)-All Wells.mxd

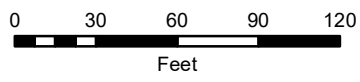
PLOTDATE: 11/11/15 SchmeiKB



Notes:  
 1) Groundwater elevations for onsite wells MW-401 and MW-403 were not recorded for this event.  
 2) OBG MW-1S, OBG MW-2S, OBG MW-3, and OBG MW-6S are screened in native soils. The remaining wells are screened in waste material, which may constitute a different flow regime.  
 3) \* Monitoring well screened in waste material.  
 4) This document was developed in color. Reproduction in B/W may not represent the data as intended.  
 5) Aerial photo provided by ESRI.

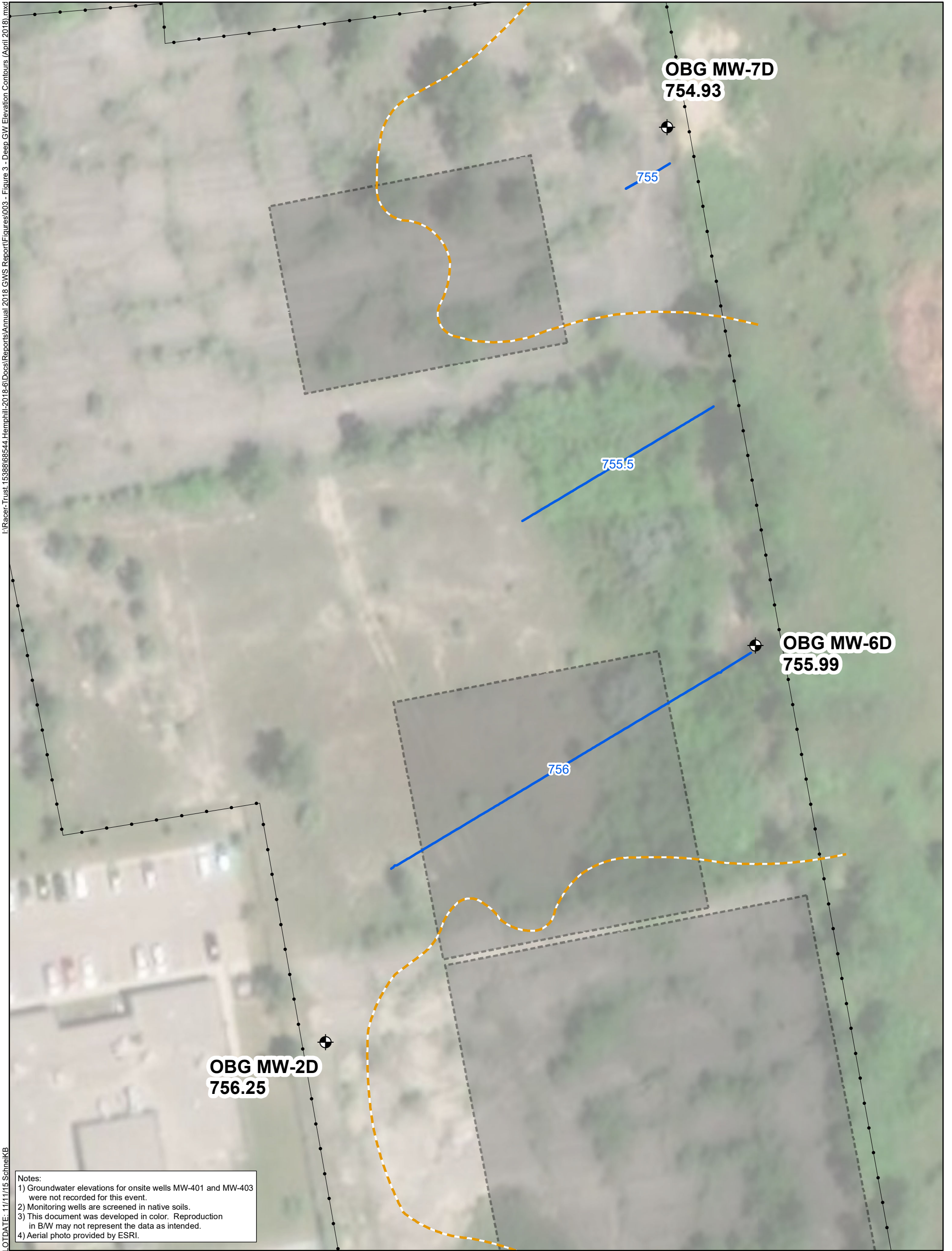
- LEGEND**
- SHALLOW MONITORING WELL LOCATION
  - SHALLOW GROUNDWATER ELEVATION CONTOUR
  - FENCE LINE
  - FORMER BUILDING
  - APPROXIMATE EXTENT OF WASTE FILL ONSITE

RACER TRUST  
 HEMPHILL ROAD INDUSTRIAL LAND  
 BURTON, MICHIGAN  
**INTERPRETED SHALLOW GROUNDWATER  
 ELEVATION CONTOURS**  
 APRIL 17, 2018



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**O'BRIEN & GERE**  
 JULY 2018

I:\Racer-Trust\15388\68544.Hemphill-2018-6\Reports\Annual-2018-GWS-Report\Figures\003 - Figure 3 - Deep GW Elevation Contours (April 2018).mxd



PILOTDATE: 11/11/15.SchneikB

- Notes:
- 1) Groundwater elevations for onsite wells MW-401 and MW-403 were not recorded for this event.
  - 2) Monitoring wells are screened in native soils.
  - 3) This document was developed in color. Reproduction in B/W may not represent the data as intended.
  - 4) Aerial photo provided by ESRI.

**LEGEND**

- DEEP MONITORING WELL LOCATION
- DEEP GROUNDWATER ELEVATION CONTOUR
- FENCE LINE
- FORMER BUILDING
- APPROXIMATE EXTENT OF WASTE FILL ONSITE

RACER TRUST  
HEMPHILL ROAD INDUSTRIAL LAND  
BURTON, MICHIGAN

**DEEP GROUNDWATER ELEVATION CONTOURS  
APRIL 17, 2018**

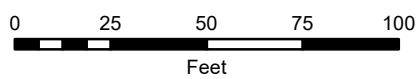
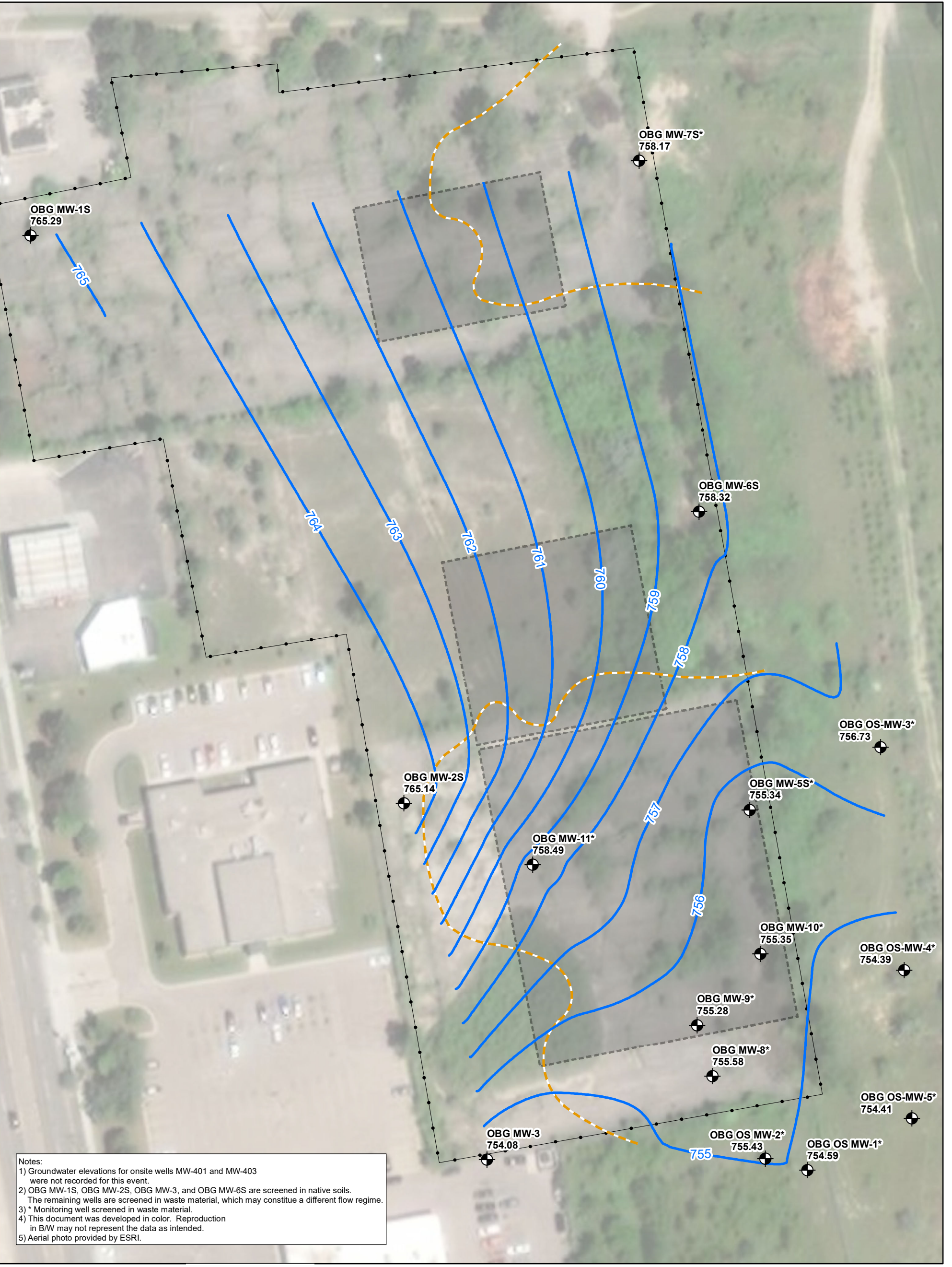







FIGURE 4

I:\Racer-Trust\153388\68544\_Hemphill-2018-6\Docs\Reports\Annual\2018 GWS Report\Figures\004 - Figure 4 - Shallow GW Elevation Contours (October 2018)-All Wells.mxd

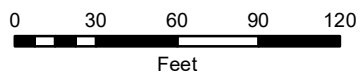
PLOTDATE: 11/11/15 SchmeiKB



Notes:  
 1) Groundwater elevations for onsite wells MW-401 and MW-403 were not recorded for this event.  
 2) OBG MW-1S, OBG MW-2S, OBG MW-3, and OBG MW-6S are screened in native soils. The remaining wells are screened in waste material, which may constitute a different flow regime.  
 3) \* Monitoring well screened in waste material.  
 4) This document was developed in color. Reproduction in B/W may not represent the data as intended.  
 5) Aerial photo provided by ESR1.

- LEGEND**
-  SHALLOW MONITORING WELL LOCATION
  -  SHALLOW GROUNDWATER ELEVATION CONTOUR
  -  FENCE LINE
  -  FORMER BUILDING
  -  APPROXIMATE EXTENT OF WASTE FILL ONSITE






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 HEMPHILL ROAD INDUSTRIAL LAND  
 BURTON, MICHIGAN  
**INTERPRETED SHALLOW GROUNDWATER  
 ELEVATION CONTOURS  
 OCTOBER 15, 2018**



I:\Racer-Trust\_153388\68544\_Hemphill-2018-6\Docs\Reports\Annual\_2018\_GWS\_Report\Figures\005 - Figure 5 - Deep\_GW\_Elevation\_Contours\_(October\_2018).mxd  
PLOTDATE: 11/11/15\_SchneidKB



Notes:  
 1) Groundwater elevations for onsite wells MW-401 and MW-403 were not recorded for this event.  
 2) Monitoring wells are screened in native soils.  
 3) This document was developed in color. Reproduction in B/W may not represent the data as intended.  
 4) Aerial photo provided by ESRI.

- LEGEND**
-  DEEP MONITORING WELL LOCATION
  -  DEEP GROUNDWATER ELEVATION CONTOUR
  -  FENCE LINE
  -  FORMER BUILDING
  -  APPROXIMATE EXTENT OF WASTE FILL ONSITE

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 HEMPHILL ROAD INDUSTRIAL LAND  
 BURTON, MICHIGAN

**DEEP GROUNDWATER ELEVATION CONTOURS  
 OCTOBER 15, 2018**

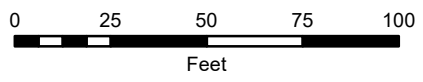
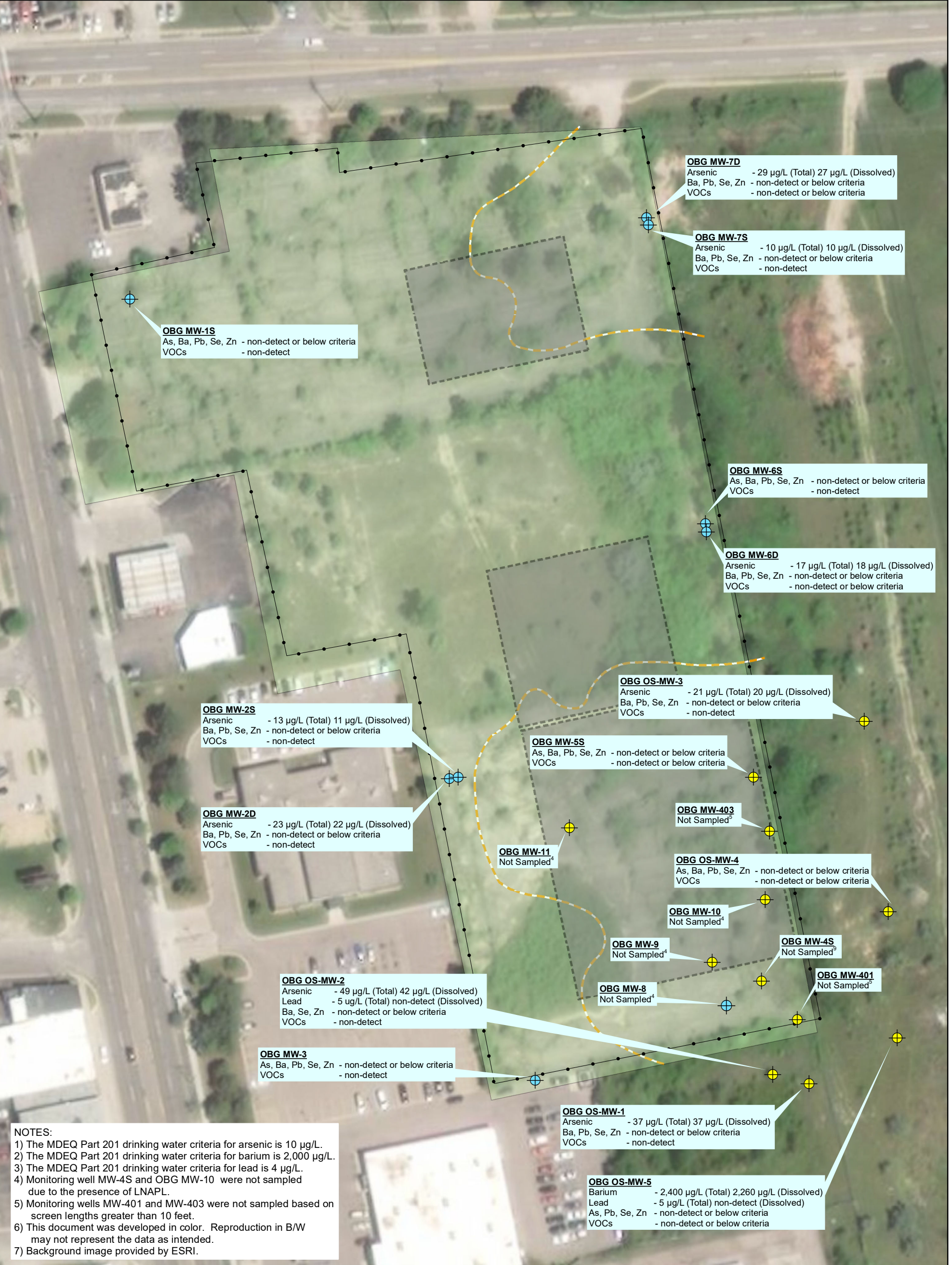


FIGURE 6

I:\Racer-Trust\153388\68544\_Hemphill-2018-6\Docs\Reports\Annual 2018 GWS Report\Figures\006 - Figure 6 - GW Analytical Results (April 2018).mxd



**NOTES:**  
 1) The MDEQ Part 201 drinking water criteria for arsenic is 10 µg/L.  
 2) The MDEQ Part 201 drinking water criteria for barium is 2,000 µg/L.  
 3) The MDEQ Part 201 drinking water criteria for lead is 4 µg/L.  
 4) Monitoring well MW-4S and OBG MW-10 were not sampled due to the presence of LNAPL.  
 5) Monitoring wells MW-401 and MW-403 were not sampled based on screen lengths greater than 10 feet.  
 6) This document was developed in color. Reproduction in B/W may not represent the data as intended.  
 7) Background image provided by ESRI.

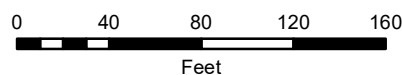
PLOTDATE: 11/29/17 SchneikB

**LEGEND**

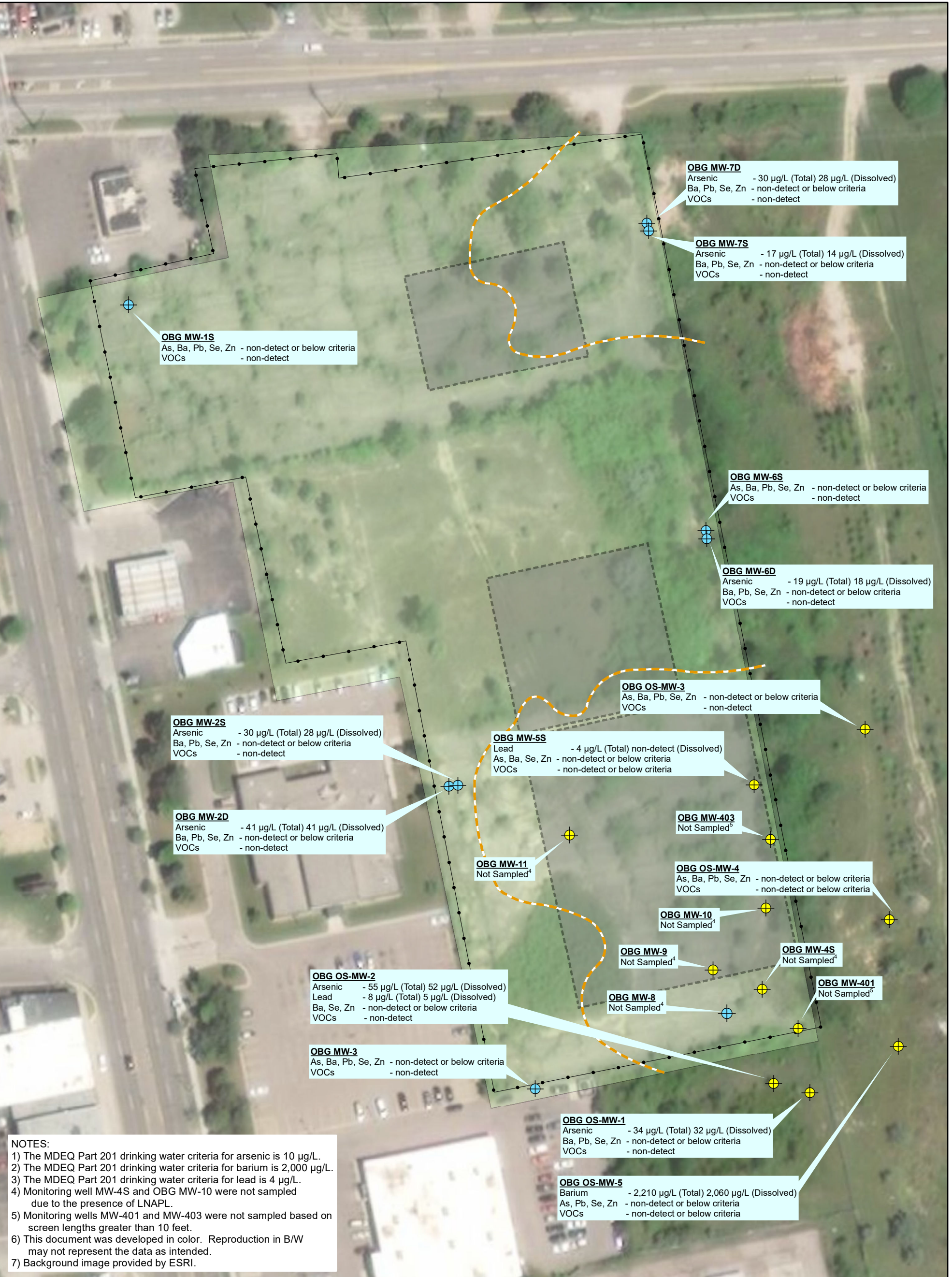
- MONITORING WELL (SCREENED IN NATIVE SOIL)
- MONITORING WELL (SCREENED IN FILL)
- FENCE LINE
- HEMPHILL ROAD INDUSTRIAL LAND
- FORMER BUILDING
- APPROXIMATE EXTENT OF WASTE FILL ONSITE

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 HEMPHILL ROAD INDUSTRIAL LAND  
 BURTON, MICHIGAN

**GROUNDWATER ANALYTICAL RESULTS  
 APRIL 2018**



I:\Receiv-Trust-15388\68544-Hemphill-2018-6\Docs\Reports\Figures\Annual 2018 GWS Report\Figures\007 - Figure 7 - GW Analytical Results (October 2018).mxd



**NOTES:**  
 1) The MDEQ Part 201 drinking water criteria for arsenic is 10 µg/L.  
 2) The MDEQ Part 201 drinking water criteria for barium is 2,000 µg/L.  
 3) The MDEQ Part 201 drinking water criteria for lead is 4 µg/L.  
 4) Monitoring well MW-4S and OBG MW-10 were not sampled due to the presence of LNAPL.  
 5) Monitoring wells MW-401 and MW-403 were not sampled based on screen lengths greater than 10 feet.  
 6) This document was developed in color. Reproduction in B/W may not represent the data as intended.  
 7) Background image provided by ESRI.

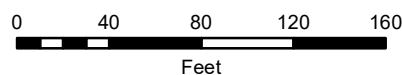
PLOTDATE: 11/29/17 SchmeiKB

**LEGEND**

- MONITORING WELL (SCREENED IN NATIVE SOIL)
- MONITORING WELL (SCREENED IN FILL)
- FENCE LINE
- HEMPHILL ROAD INDUSTRIAL LAND
- FORMER BUILDING
- APPROXIMATE EXTENT OF WASTE FILL ONSITE

RACER TRUST  
 HEMPHILL ROAD INDUSTRIAL LAND  
 BURTON, MICHIGAN

**GROUNDWATER ANALYTICAL RESULTS  
 OCTOBER 2018**





**Exhibit A**  
**Groundwater Sampling**  
**Logs – April 2018 and**  
**October 2018**

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 4/17/18  
 Site Name Hemphill  
 Location Plant, MI  
 Project No. 08544  
 Personnel KBS

Weather SNOW showers 30  
 Well # OBG MW-7S  
 Evacuation Method Peristaltic pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 17.73 ft.  
 Depth to Water \* 4.55 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal. (s)  
 3X Volume of Water in Well \_\_\_\_\_ gal. (s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 3 1/2 gal. (s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>7.35</u>	initial <u>7.3</u>	initial <u>1.03</u>	initial <u>1.60</u>	initial <u>6.69</u>	initial <u>125.0</u>	initial <u>153</u>
9:30 5 min	<u>8.04</u>	<u>8.1</u>	<u>0.99</u>	<u>0.21</u>	<u>6.72</u>	<u>120.0</u>	<u>141</u>
9:35 10 min	<u>8.56</u>	<u>8.1</u>	<u>0.98</u>	<u>0.23</u>	<u>6.73</u>	<u>115.7</u>	<u>129</u>
9:40 15 min	<u>9.36</u>	<u>8.2</u>	<u>0.96</u>	<u>0.13</u>	<u>6.73</u>	<u>106.3</u>	<u>98</u>
9:45 20 min	<u>10.59</u>	<u>8.4</u>	<u>0.96</u>	<u>0.07</u>	<u>6.73</u>	<u>94.4</u>	<u>96</u>
9:50 25 min	<u>11.49</u>	<u>8.3</u>	<u>0.96</u>	<u>0.22</u>	<u>6.72</u>	<u>82.8</u>	<u>84</u>
9:55 30 min	<u>12.11</u>	<u>8.6</u>	<u>0.97</u>	<u>0.24</u>	<u>6.71</u>	<u>74.5</u>	<u>70</u>
10:00 35 min	<u>12.59</u>	<u>8.6</u>	<u>0.97</u>	<u>0.24</u>	<u>6.70</u>	<u>67.2</u>	<u>64</u>
10:05 40 min	<u>12.87</u>	<u>8.8</u>	<u>0.98</u>	<u>0.20</u>	<u>6.70</u>	<u>57.4</u>	<u>48</u>
10:10 45 min	<u>12.87</u>	<u>8.7</u>	<u>0.99</u>	<u>0.18</u>	<u>6.68</u>	<u>47.0</u>	<u>45</u>
10:15 50 min	<u>12.87</u>	<u>8.9</u>	<u>0.99</u>	<u>0.15</u>	<u>6.66</u>	<u>38.5</u>	<u>34</u>
10:20 55 min	<u>13.10</u>	<u>9.0</u>	<u>1.00</u>	<u>0.13</u>	<u>6.66</u>	<u>26.0</u>	<u>24</u>
10:25 60 min	<u>13.35</u>	<u>9.0</u>	<u>1.00</u>	<u>0.13</u>	<u>6.65</u>	<u>19.5</u>	<u>20</u>
10:30	<u>13.59</u>	<u>8.9</u>	<u>1.00</u>	<u>0.12</u>	<u>6.64</u>	<u>8.9</u>	<u>22</u>

Water Sample:

Time Collected 1040

Over =>

Physical Appearance at Start

Physical Appearance at Sampling

Color cloudy / light grey  
 Odor NONE  
 Turbidity (> 100 NTU) 153  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 18  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml glass vials	HCl	no

Notes:

086-MW-7S

	DD	Temp	CON	DO	pH	ORP	Turns
1035	13.79	8.9	1.01	0.12	6.64	2.0	22
1040	13.90	9.2	1.02	0.11	6.64	-3.6	20

**O'Brien & Gere Engineers, Inc.**

**Standard Groundwater Sampling Log**

Date 4/17/18  
 Site Name Hemphill Rd  
 Location Flint, MI  
 Project No. 108544  
 Personnel KBS

Weather mostly cloudy 30's  
 Well # OBG-MW-7D  
 Evacuation Method Peristaltic pump sub  
 Sampling Method Low-flow

**Well Information:**

Depth of Well \* 47.60 ft.  
 Depth to Water \* 11.43 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 1/4 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

**Instrument Calibration:**

Calibrated within range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

**Water parameters:**

Pumping Rate 150 ml/min

1100  
1105  
1110  
1115  
1120  
1125  
1130

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>11.49</u>	initial <u>10.6</u>	initial <u>0.51</u>	initial <u>3.21</u>	initial <u>7.74</u>	initial <u>-17.7</u>	initial <u>156</u>
5 min	<u>11.49</u>	<u>10.8</u>	<u>0.494</u>	<u>1.10</u>	<u>7.74</u>	<u>-27.5</u>	<u>102</u>
10 min	<u>11.49</u>	<u>10.9</u>	<u>0.493</u>	<u>0.48</u>	<u>7.75</u>	<u>-37.7</u>	<u>79</u>
15 min	<u>11.49</u>	<u>10.9</u>	<u>0.491</u>	<u>0.32</u>	<u>7.75</u>	<u>-44.6</u>	<u>58</u>
20 min	<u>11.49</u>	<u>10.9</u>	<u>0.492</u>	<u>0.26</u>	<u>7.76</u>	<u>-51.9</u>	<u>42</u>
25 min	<u>11.49</u>	<u>10.9</u>	<u>0.491</u>	<u>0.23</u>	<u>7.75</u>	<u>-57.9</u>	<u>43</u>
30 min	<u>11.49</u>	<u>10.9</u>	<u>0.491</u>	<u>0.24</u>	<u>7.76</u>	<u>-63.1</u>	<u>45</u>
35 min	<u>11.49</u>	<u>11.0</u>	<u>0.491</u>	<u>0.22</u>	<u>7.76</u>	<u>-66.5</u>	<u>41</u>
40 min	_____	_____	_____	_____	_____	_____	_____
45 min	_____	_____	_____	_____	_____	_____	_____
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____

**Water Sample:**

Time Collected 1130

Physical Appearance at Start

Physical Appearance at Sampling

Color Slightly cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) 156  
 Sheen/Free Product NONE

Color Slightly cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) 41  
 Sheen/Free Product NONE

**Samples collected:**

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml glass vials	HCl	no
<u>Total / Dissolved metals</u>	<u>2</u>	<u>125 ml plastic</u>	<u>HNO3</u>	<u>yes</u>

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 4/17/18  
 Site Name RACER Site #1291 - Burton Parcel  
 Location Burton, MI  
 Project No. 68544  
 Personnel KBS

Weather cloudy 30's  
 Well # 036-MW-15  
 Evacuation Method Peristaltic / Submersible pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 27.70 ft.  
 Depth to Water \* 11.08 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal. (s)  
 3X Volume of Water in Well \_\_\_\_\_ gal. (s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal. (s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within range

pH X4  
 ORP X3  
 Conductivity X3  
 DO X5

Water parameters:

Pumping Rate 100ml/min

1205  
1210  
1215  
1220  
1225  
1230  
1235

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>11.42</u>	initial <u>7.8</u>	initial <u>0.91</u>	initial <u>7.41</u>	initial <u>7.52</u>	initial <u>28.1</u>	initial <u>22</u>
5 min	<u>11.02</u>	<u>8.7</u>	<u>0.96</u>	<u>1.93</u>	<u>7.47</u>	<u>23.7</u>	<u>18</u>
10 min	<u>12.09</u>	<u>9.3</u>	<u>0.99</u>	<u>1.80</u>	<u>7.46</u>	<u>21.3</u>	<u>22</u>
15 min	<u>12.39</u>	<u>9.4</u>	<u>1.00</u>	<u>2.20</u>	<u>7.49</u>	<u>20.3</u>	<u>19</u>
20 min	<u>12.65</u>	<u>9.5</u>	<u>1.00</u>	<u>2.80</u>	<u>7.44</u>	<u>20.1</u>	<u>20</u>
25 min	<u>12.87</u>	<u>9.4</u>	<u>1.00</u>	<u>2.65</u>	<u>7.42</u>	<u>20.2</u>	<u>19</u>
30 min	<u>13.02</u>	<u>9.7</u>	<u>1.01</u>	<u>2.55</u>	<u>7.41</u>	<u>20.2</u>	<u>18</u>
35 min	_____	_____	_____	_____	_____	_____	_____
40 min	_____	_____	_____	_____	_____	_____	_____
45 min	_____	_____	_____	_____	_____	_____	_____
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 1235

Physical Appearance at Start

Physical Appearance at Sampling

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 22  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 18  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	<u>3</u>	<u>40 ml glass vials</u>	<u>HCl</u>	<u>no</u>
Arsenic, Lead, Barium, Zinc	<u>2</u>	<u>125 ml plastic</u>	<u>HNO<sub>3</sub></u>	<u>Yes</u>

Notes:

Date 4/17/18  
 Site Name RACER Site #1291 - Burton Parcel  
 Location Burton MI  
 Project No. 68544  
 Personnel KBS

Weather cloudy 30's  
 Well # OBG-MW-65  
 Evacuation Method Peristaltic / Submersible pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 19.15 ft.  
 Depth to Water \* 12.36 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.659 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 3/4 gal.(s)  
 Did well go dry? no

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH yes  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

Pumping Rate 100 ml/min

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>12.78</u>	initial <u>6.7</u>	initial <u>1.08</u>	initial <u>3.92</u>	initial <u>7.13</u>	initial <u>58.4</u>	initial <u>24</u>
<u>1305</u> 5 min	<u>13.37</u>	<u>7.1</u>	<u>1.09</u>	<u>3.19</u>	<u>7.10</u>	<u>58.7</u>	<u>24</u>
<u>1310</u> 10 min	<u>13.85</u>	<u>7.1</u>	<u>1.10</u>	<u>3.14</u>	<u>7.10</u>	<u>59.0</u>	<u>19</u>
<u>1315</u> 15 min	<u>14.29</u>	<u>7.2</u>	<u>1.10</u>	<u>3.24</u>	<u>7.11</u>	<u>59.5</u>	<u>19</u>
<u>1320</u> 20 min	<u>14.40</u>	<u>7.2</u>	<u>1.10</u>	<u>3.06</u>	<u>7.10</u>	<u>60.5</u>	<u>17</u>
<u>1325</u> 25 min	<u>14.64</u>	<u>7.2</u>	<u>1.10</u>	<u>2.91</u>	<u>7.08</u>	<u>61.6</u>	<u>16</u>
<u>1330</u> 30 min	<u>14.79</u>	<u>7.3</u>	<u>1.10</u>	<u>2.89</u>	<u>7.07</u>	<u>62.2</u>	<u>16</u>
35 min							
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected 1330

Physical Appearance at Start

Physical Appearance at Sampling

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 24  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 16  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml glass vials	HCl	no
Arsenic, Lead, Barium, Zinc	1	125 ml plastic	HNO <sub>3</sub>	

Notes:

Date 4/17/18  
 Site Name RACER Site #1291 - Burton Parcel  
 Location Burton MI  
 Project No. 68544  
 Personnel KBS

Weather clear 40°  
 Well # OBG-MW-61D  
 Evacuation Method Peristaltic / Submersible pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 44.45 ft.  
 Depth to Water \* 16.70 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 0 1/2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify):

Instrument Calibration:

Calibrated within range

pH 7.4  
 ORP 4.5  
 Conductivity 6.5  
 DO 2.5

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	17.19	initial 8.6	initial 0.84	initial 5.13	initial 7.49	initial 61.1	initial 155
1355 5 min	17.85	8.8	0.76	4.39	7.73	55.2	114
1400 10 min	18.4	8.8	0.75	4.15	7.81	54.6	93
1405 15 min	18.61	9.8	0.77	3.87	7.82	53.5	74
1410 20 min	19.04	9.7	0.77	3.62	7.81	54.3	52
1415 25 min	19.29	9.7	0.77	3.04	7.79	54.3	44
1420 30 min	19.49	9.7	0.78	2.34	7.77	53.4	39
1425 35 min	19.54	9.8	0.78	1.86	7.75	51.6	30
1430 40 min		9.6	0.78	1.55	7.74	48.9	28
1435 45 min	19.59	9.5	0.78	1.19	7.73	45.5	25
1440 50 min	19.59	9.7	0.79	1.14	7.73	41.8	24
1445 55 min	19.59	9.4	0.78	1.06	7.73	37.5	24
60 min							

Water Sample:

Time Collected 1445

Physical Appearance at Start

Physical Appearance at Sampling

Color light gray  
 Odor NONE  
 Turbidity (> 100 NTU) 155  
 Sheen/Free Product NONE

Color slightly cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) 24  
 Sheen/Free Product NONE

Samples collected:

Analyzes	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml glass vials	HCl	no
Arsenic, Lead, Barium, Zinc	1	125 ml plastic	HNO <sub>3</sub>	

Notes:

Date 4/17/18  
 Site Name RACER Site #1291 - Burton Parcel  
 Location Burton MI  
 Project No. 68544  
 Personnel KBS

Weather cloudy 30's  
 Well # OBG-MW-25  
 Evacuation Method Peristaltic / Submersible pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 20.29 ft.  
 Depth to Water \* 8.91 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal (s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 1/4 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

	Drawdown measured 0.5 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>9.54</u>	initial <u>8.2</u>	initial <u>1.93</u>	initial <u>2.13</u>	initial <u>7.01</u>	initial <u>84.8</u>	initial <u>31</u>
1515 5 min	<u>9.85</u>	<u>8.3</u>	<u>1.99</u>	<u>1.52</u>	<u>7.21</u>	<u>82.6</u>	<u>24</u>
1520 10 min	<u>10.31</u>	<u>8.3</u>	<u>1.99</u>	<u>1.34</u>	<u>7.20</u>	<u>79.7</u>	<u>19</u>
1525 15 min	<u>10.64</u>	<u>8.3</u>	<u>2.00</u>	<u>1.24</u>	<u>7.20</u>	<u>77.8</u>	<u>20</u>
1530 20 min	<u>10.91</u>	<u>8.5</u>	<u>2.00</u>	<u>1.12</u>	<u>7.19</u>	<u>76.0</u>	<u>14</u>
1535 25 min	<u>11.22</u>	<u>8.5</u>	<u>2.01</u>	<u>1.00</u>	<u>7.19</u>	<u>73.4</u>	<u>16</u>
1540 30 min	<u>11.45</u>	<u>8.7</u>	<u>2.02</u>	<u>0.97</u>	<u>7.19</u>	<u>71.3</u>	<u>15</u>
35 min	<u>11.79</u>	<u>8.4</u>	<u>2.01</u>	<u>0.94</u>	<u>7.19</u>	<u>68.9</u>	<u>15</u>
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected 1545

Physical Appearance at Start

Physical Appearance at Sampling

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 31  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 15  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml glass vials	HCl	no
Arsenic, Lead, Barium, Zinc	1	125 ml plastic	HNO <sub>3</sub>	

Notes:

Date 4/17/18  
 Site Name RACER Site #1291 - Burton Parcel  
 Location Burton, MI  
 Project No. 08544  
 Personnel KBS

Weather cloudy 30's  
 Well # OBG-MW-20  
 Evacuation Method Peristaltic / Submersible pump  
 Sampling Method Low-flow

Well information:

Depth of Well \* 38.40 ft.  
 Depth to Water \* 18.94 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling \_\_\_\_\_ gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH yes  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>19.23</u>	initial <u>8.8</u>	initial <u>1.27</u>	initial <u>1.16</u>	initial <u>7.38</u>	initial <u>35.4</u>	initial <u>35</u>
<u>1610</u> 5 min	<u>19.26</u>	<u>8.9</u>	<u>1.28</u>	<u>1.00</u>	<u>7.37</u>	<u>35.7</u>	<u>23</u>
<u>1615</u> 10 min	<u>19.32</u>	<u>8.9</u>	<u>1.28</u>	<u>0.87</u>	<u>7.36</u>	<u>35.2</u>	<u>20</u>
<u>1620</u> 15 min	<u>19.36</u>	<u>8.9</u>	<u>1.28</u>	<u>0.67</u>	<u>7.35</u>	<u>34.5</u>	<u>19</u>
<u>1625</u> 20 min	<u>19.39</u>	<u>9.1</u>	<u>1.29</u>	<u>0.58</u>	<u>7.35</u>	<u>33.7</u>	<u>19</u>
<u>1630</u> 25 min	<u>19.41</u>	<u>9.4</u>	<u>1.29</u>	<u>0.51</u>	<u>7.35</u>	<u>32.6</u>	<u>14</u>
<u>1635</u> 30 min	<u>19.42</u>	<u>9.1</u>	<u>1.29</u>	<u>0.40</u>	<u>7.35</u>	<u>30.9</u>	<u>15</u>
<u>1640</u> 35 min	<u>19.45</u>	<u>9.1</u>	<u>1.29</u>	<u>0.38</u>	<u>7.35</u>	<u>29.7</u>	<u>14</u>
<u>1645</u> 40 min	<u>19.45</u>	<u>9.2</u>	<u>1.30</u>	<u>0.35</u>	<u>7.35</u>	<u>28.3</u>	<u>13</u>
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected 16015

Physical Appearance at Start

Physical Appearance at Sampling

Color slightly cloudy  
 Odor None  
 Turbidity (> 100 NTU) 25  
 Sheen/Free Product None

Color clear  
 Odor None  
 Turbidity (> 100 NTU) 13  
 Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml glass vials	HCl	no
Arsenic, Lead, Barium, Zinc	1	125 ml plastic	HNO <sub>3</sub>	

Notes:

Date 4/18/18  
 Site Name RACER Site #1291 - Burton Parcel  
 Location Burton MI  
 Project No. 68544  
 Personnel KBS

Weather cloudy 30's  
 Well # OBG-05-MW-3  
 Evacuation Method Peristaltic / Submersible pump  
 Sampling Method Low-flow

Well information:

Depth of Well \* 30.28 ft.  
 Depth to Water \* 25.05 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)  
 Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC  
 Volume removed before sampling 1 1/2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH yes  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>25.09</u>	initial <u>7.8</u>	initial <u>1109</u>	initial <u>0.29</u>	initial <u>7.21</u>	initial <u>101.1</u>	initial _____
<u>8:45</u> 5 min	<u>25.09</u>	<u>8.6</u>	<u>0.93</u>	<u>0.22</u>	<u>7.30</u>	<u>67.5</u>	<u>14</u>
<u>8:50</u> 10 min	<u>25.14</u>	<u>8.8</u>	<u>0.89</u>	<u>0.18</u>	<u>7.37</u>	<u>-3.9</u>	<u>11</u>
<u>8:55</u> 15 min	<u>25.14</u>	<u>9.0</u>	<u>0.89</u>	<u>0.14</u>	<u>7.38</u>	<u>-74.7</u>	<u>9</u>
<u>9:00</u> 20 min	<u>25.14</u>	<u>9.0</u>	<u>0.89</u>	<u>0.14</u>	<u>7.38</u>	<u>-115.0</u>	<u>7</u>
<u>9:05</u> 25 min	<u>25.14</u>	<u>8.9</u>	<u>0.89</u>	<u>0.11</u>	<u>7.38</u>	<u>-146.9</u>	<u>6</u>
<u>9:10</u> 30 min	<u>25.14</u>	<u>9.0</u>	<u>0.89</u>	<u>0.09</u>	<u>7.38</u>	<u>-171.6</u>	<u>5</u>
<u>9:15</u> 35 min	<u>25.14</u>	<u>9.1</u>	<u>0.89</u>	<u>0.09</u>	<u>7.39</u>	<u>-182.3</u>	<u>6</u>
<u>9:20</u> 40 min	<u>25.14</u>	<u>9.1</u>	<u>0.89</u>	<u>0.10</u>	<u>7.39</u>	<u>-191.4</u>	<u>7</u>
<u>9:25</u> 45 min	<u>25.14</u>	<u>9.1</u>	<u>0.89</u>	<u>0.10</u>	<u>7.39</u>	<u>-197.6</u>	<u>6</u>
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 9:25

Physical Appearance at Start

Physical Appearance at Sampling

Color clear Color clear  
 Odor NONE Odor NONE  
 Turbidity (> 100 NTU) 14 Turbidity (> 100 NTU) 6  
 Sheen/Free Product NONE Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	<u>3</u>	<u>40 ml glass vials</u>	<u>HCl</u>	<u>no</u>
Arsenic, Lead, Barium, Zinc	<u>7</u>	<u>125 ml plastic</u>	<u>HNO<sub>3</sub></u>	<u>yes</u>

Notes:

Date 4/18/18  
 Site Name RACER Site #1291 - Burton Parcel  
 Location Burton, MI  
 Project No. 0854  
 Personnel KBS

Weather cloudy 40s  
 Well # 086-05-MW-4  
 Evacuation Method Peristaltic / Submersible pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 27.76 ft.  
 Depth to Water \* 23.99 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.652 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)  
 Did well go dry? No

(Other, Specify) \_\_\_\_\_

\* Measurements taken from  Well Casing  Protective Casing

Instrument Calibration:

Calibrated within range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>23.99</u>	initial <u>7.7</u>	initial <u>1.51</u>	initial <u>0.56</u>	initial <u>6.54</u>	initial <u>-109.1</u>	initial <u>20</u>
9:20 5 min	<u>23.99</u>	<u>8.5</u>	<u>1.59</u>	<u>0.40</u>	<u>6.54</u>	<u>-112.0</u>	<u>14</u>
9:25 10 min	<u>23.99</u>	<u>8.6</u>	<u>1.61</u>	<u>0.24</u>	<u>6.54</u>	<u>-116.1</u>	<u>14</u>
10:25 15 min	<u>23.99</u>	<u>8.8</u>	<u>1.61</u>	<u>0.22</u>	<u>6.54</u>	<u>-121.1</u>	<u>13</u>
10:25 20 min	<u>23.99</u>	<u>8.9</u>	<u>1.62</u>	<u>0.26</u>	<u>6.54</u>	<u>-125.2</u>	<u>13</u>
11:10 25 min	<u>23.99</u>	<u>9.1</u>	<u>1.63</u>	<u>0.18</u>	<u>6.54</u>	<u>-127.3</u>	<u>11</u>
11:15 30 min	<u>23.99</u>	<u>9.0</u>	<u>1.63</u>	<u>0.18</u>	<u>6.54</u>	<u>-129.3</u>	<u>11</u>
35 min							
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected 10:15

Physical Appearance at Start

Physical Appearance at Sampling

Color clear      Color clear  
 Odor solvent odor      Odor solvent odor  
 Turbidity (> 100 NTU) 20      Turbidity (> 100 NTU) 11  
 Sheen/Free Product NONE      Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml glass vials	HCl	no
Arsenic, Lead, Barium, Zinc	1	125 ml plastic	HNO <sub>3</sub>	

Notes:

Date 4/18/18  
 Site Name RACER Site #1291 - Burton Parcel  
 Location Burton, MI  
 Project No. 68544  
 Personnel KBS

Weather cloudy 30's  
 Well # OBG-05-MW-5  
 Evacuation Method Peristaltic / Submersible pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 28.13 ft.  
 Depth to Water \* 24.36 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal. (s)  
 3X Volume of Water in Well \_\_\_\_\_ gal. (s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal. (s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

1135  
1140  
1145  
1150  
1155  
1200  
1205

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>24.41</u>	initial <u>7.9</u>	initial <u>1.84</u>	initial <u>0.65</u>	initial <u>6.39</u>	initial <u>5.5</u>	initial <u>49</u>
5 min	<u>24.41</u>	<u>8.7</u>	<u>1.90</u>	<u>0.72</u>	<u>6.37</u>	<u>2.0</u>	<u>36</u>
10 min	<u>24.41</u>	<u>9.7</u>	<u>1.94</u>	<u>0.38</u>	<u>6.34</u>	<u>-11.6</u>	<u>23</u>
15 min	<u>24.41</u>	<u>9.7</u>	<u>1.92</u>	<u>0.20</u>	<u>6.34</u>	<u>-18.2</u>	<u>22</u>
20 min	<u>24.43</u>	<u>9.8</u>	<u>1.92</u>	<u>0.15</u>	<u>6.34</u>	<u>-28.2</u>	<u>19</u>
25 min	<u>24.44</u>	<u>10.0</u>	<u>1.92</u>	<u>0.11</u>	<u>6.34</u>	<u>-44.3</u>	<u>19</u>
30 min	<u>24.44</u>	<u>9.7</u>	<u>1.88</u>	<u>0.13</u>	<u>6.33</u>	<u>-50.0</u>	<u>18</u>
35 min	<u>24.44</u>	<u>10.0</u>	<u>1.87</u>	<u>0.14</u>	<u>6.32</u>	<u>-53.9</u>	<u>17</u>
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample: 1005  
 Time Collected

Physical Appearance at Start	<u>clear/black flecks</u>	Physical Appearance at Sampling	<u>clear</u>
Color		Color	
Odor	<u>solvent odor</u>	Odor	<u>solvent odor</u>
Turbidity (> 100 NTU)	<u>45</u>	Turbidity (> 100 NTU)	<u>17</u>
Sheen/Free Product	<u>none</u>	Sheen/Free Product	<u>None</u>

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml glass vials	HCl	no
Arsenic, Lead, Barium, Zinc	1	125 ml plastic	HNO <sub>3</sub>	

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 4/17/18  
 Site Name RACER Site #1291 - Burton Parcel  
 Location Burton, MI  
 Project No. 68544  
 Personnel KBS

Weather cloudy 40's  
 Well # OBG-03-MW-1  
 Evacuation Method Peristaltic / Submersible pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 30.17 ft.  
 Depth to Water \* 21.29 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)  
 Did well go dry? No

(Other, Specify): \_\_\_\_\_

\* Measurements taken from  Well Casing  Protective Casing

Instrument Calibration: Calibrated within range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>21.65</u>	initial <u>8.6</u>	initial <u>0.80</u>	initial <u>0.10</u>	initial <u>6.77</u>	initial <u>-48.1</u>	initial <u>173</u>
5 min	<u>21.79</u>	<u>9.0</u>	<u>0.80</u>	<u>0.13</u>	<u>6.73</u>	<u>-53.0</u>	<u>95</u>
10 min	<u>21.96</u>	<u>9.2</u>	<u>0.85</u>	<u>0.11</u>	<u>6.72</u>	<u>-59.3</u>	<u>76</u>
15 min	<u>22.09</u>	<u>8.9</u>	<u>0.85</u>	<u>0.15</u>	<u>6.72</u>	<u>-65.1</u>	<u>64</u>
20 min	<u>22.21</u>	<u>9.3</u>	<u>0.80</u>	<u>0.12</u>	<u>6.72</u>	<u>-72.9</u>	<u>51</u>
25 min	<u>22.38</u>	<u>9.2</u>	<u>0.80</u>	<u>0.09</u>	<u>6.72</u>	<u>-78.0</u>	<u>42</u>
30 min	<u>22.40</u>	<u>9.4</u>	<u>0.80</u>	<u>0.13</u>	<u>6.72</u>	<u>-80.1</u>	<u>38</u>
35 min	<u>22.47</u>	<u>9.4</u>	<u>0.80</u>	<u>0.11</u>	<u>6.72</u>	<u>-90.8</u>	<u>26</u>
40 min	<u>22.55</u>	<u>9.4</u>	<u>0.80</u>	<u>0.09</u>	<u>6.72</u>	<u>-95.5</u>	<u>24</u>
45 min	_____	_____	_____	_____	_____	_____	_____
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____

Water Sample: Time Collected 1325

Physical Appearance at Start \_\_\_\_\_ Physical Appearance at Sampling \_\_\_\_\_

Color light Gray Color Clear  
 Odor NONE Odor NONE  
 Turbidity (> 100 NTU) 173 Turbidity (> 100 NTU) 24  
 Sheen/Free Product NONE Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml glass vials	HCl	no
Arsenic, Lead, Barium, Zinc	1	125 ml plastic	HNO <sub>3</sub>	

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 4/18/18  
 Site Name RACER Site #1291 - Burton Parcel  
 Location Burton, MI  
 Project No. 08544  
 Personnel KBS

Weather cloudy 40's  
 Well # OBG-05-MW-2  
 Evacuation Method Peristaltic / Submersible pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 30.16 ft.  
 Depth to Water \* 20.30 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within range

pH yes  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>20.80</u>	initial <u>9.1</u>	initial <u>0.81</u>	initial <u>0.65</u>	initial <u>6.71</u>	initial <u>-50.1</u>	initial <u>17</u>
1350 5 min	<u>20.91</u>	<u>9.2</u>	<u>0.87</u>	<u>0.11</u>	<u>6.70</u>	<u>-50.1</u>	<u>20</u>
1355 10 min	<u>21.15</u>	<u>9.2</u>	<u>0.81</u>	<u>0.21</u>	<u>6.69</u>	<u>-62.0</u>	<u>20</u>
1400 15 min	<u>21.31</u>	<u>9.3</u>	<u>0.81</u>	<u>0.20</u>	<u>6.69</u>	<u>-67.5</u>	<u>21</u>
1405 20 min	<u>21.34</u>	<u>9.1</u>	<u>0.80</u>	<u>0.18</u>	<u>6.69</u>	<u>-75.4</u>	<u>18</u>
1410 25 min	<u>21.38</u>	<u>9.3</u>	<u>0.81</u>	<u>0.20</u>	<u>6.69</u>	<u>-80.5</u>	<u>21</u>
1415 30 min	<u>21.47</u>	<u>9.2</u>	<u>0.81</u>	<u>0.20</u>	<u>6.69</u>	<u>-85.2</u>	<u>21</u>
1420 35 min	<u>21.55</u>	<u>9.2</u>	<u>0.80</u>	<u>0.22</u>	<u>6.69</u>	<u>-88.0</u>	<u>23</u>
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected 1420

Physical Appearance at Start

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 17  
 Sheen/Free Product NONE

Physical Appearance at Sampling

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 23  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml glass vials	HCl	no
Arsenic, Lead, Barium, Zinc	1	125 ml plastic	HNO <sub>3</sub>	

Notes:

Date 4/18/18  
 Site Name RACER Site #1291 - Burton Parcel  
 Location Burton MI  
 Project No. 68544  
 Personnel KBS

Weather cloudy 40's  
 Well # OBG-MW-55  
 Evacuation Method Peristaltic / Submersible pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 20.29 ft.  
 Depth to Water \* 15.20 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal (s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify): \_\_\_\_\_

Instrument Calibration:

Calibrated within range

pH X6  
 ORP X5  
 Conductivity X6  
 DO X5

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity uS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>15.55</u>	initial <u>9.3</u>	initial <u>2.06</u>	initial <u>0.86</u>	initial <u>6.55</u>	initial <u>12.7</u>	initial <u>110</u>
1450 5 min	<u>15.89</u>	<u>10.1</u>	<u>2.09</u>	<u>0.30</u>	<u>6.54</u>	<u>8.6</u>	<u>114</u>
1455 10 min	<u>16.31</u>	<u>10.2</u>	<u>2.10</u>	<u>0.21</u>	<u>6.51</u>	<u>-2.8</u>	<u>108</u>
1500 15 min	<u>16.57</u>	<u>10.3</u>	<u>2.11</u>	<u>0.16</u>	<u>6.48</u>	<u>-11.8</u>	<u>102</u>
1505 20 min	<u>16.62</u>	<u>10.4</u>	<u>2.13</u>	<u>0.15</u>	<u>6.48</u>	<u>-23.3</u>	<u>108</u>
1510 25 min	<u>16.75</u>	<u>10.3</u>	<u>2.14</u>	<u>0.13</u>	<u>6.48</u>	<u>-33.0</u>	<u>104</u>
1515 30 min	<u>16.89</u>	<u>10.5</u>	<u>2.23</u>	<u>0.11</u>	<u>6.48</u>	<u>-48.7</u>	<u>79</u>
1520 35 min	<u>16.84</u>	<u>10.6</u>	<u>2.30</u>	<u>0.05</u>	<u>6.49</u>	<u>-58.3</u>	<u>57</u>
1525 40 min	<u>17.11</u>	<u>10.7</u>	<u>2.34</u>	<u>0.06</u>	<u>6.49</u>	<u>-66.3</u>	<u>50</u>
1530 45 min	<u>17.14</u>	<u>10.6</u>	<u>2.40</u>	<u>0.06</u>	<u>6.49</u>	<u>-74.4</u>	<u>42</u>
1535 50 min	<u>17.16</u>	<u>10.8</u>	<u>2.56</u>	<u>0.06</u>	<u>6.51</u>	<u>-85.3</u>	<u>27</u>
1540 55 min	<u>17.20</u>	<u>10.6</u>	<u>2.55</u>	<u>0.07</u>	<u>6.50</u>	<u>-87.7</u>	<u>27</u>
60 min	<u>17.20</u>	<u>10.6</u>	<u>2.54</u>	<u>0.07</u>	<u>6.50</u>	<u>-92.0</u>	<u>23</u>

Water Sample:

Time Collected 1545

Physical Appearance at Start

Physical Appearance at Sampling

Color Yellowish  
 Odor Slight solvent odor  
 Turbidity (> 100 NTU) 110  
 Sheen/Free Product Slight sheen

Color Yellowish  
 Odor Slight solvent odor  
 Turbidity (> 100 NTU) 23  
 Sheen/Free Product Slight sheen

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml glass vials	HCl	no
Arsenic, Lead, Barium, Zinc	1	125 ml plastic	HNO <sub>3</sub>	

Notes:

\* DUP-1 collected

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 9/18/18  
 Site Name Wemphill  
 Location Plant, MI  
 Project No. 18544  
 Personnel KBS

Weather Cloudy 40's  
 Well # 066-MW-35  
 Evacuation Method peristaltic  
 Sampling Method Low Flow

Well Information:

Depth of Well \* 27.60 ft.  
 Depth to Water \* 22.93 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1.0 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

16:15  
16:20  
16:30  
16:35  
16:40  
16:45

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>22.93</u>	initial <u>8.9</u>	initial <u>2.20</u>	initial <u>0.03</u>	initial <u>6.96</u>	initial <u>-60.4</u>	initial <u>6.0</u>
5 min	<u>22.93</u>	<u>9.5</u>	<u>2.23</u>	<u>0.03</u>	<u>6.87</u>	<u>-67.6</u>	<u>29</u>
10 min	<u>22.93</u>	<u>9.3</u>	<u>2.20</u>	<u>0.16</u>	<u>6.84</u>	<u>-70.8</u>	<u>21</u>
15 min	<u>22.93</u>	<u>9.4</u>	<u>2.17</u>	<u>0.07</u>	<u>6.84</u>	<u>-73.6</u>	<u>12</u>
20 min	<u>22.93</u>	<u>9.5</u>	<u>2.14</u>	<u>0.07</u>	<u>6.83</u>	<u>-76.7</u>	<u>16</u>
25 min	<u>22.93</u>	<u>9.5</u>	<u>2.13</u>	<u>0.09</u>	<u>6.84</u>	<u>-77.7</u>	<u>10</u>
30 min	<u>22.93</u>	<u>9.9</u>	<u>2.13</u>	<u>0.09</u>	<u>6.84</u>	<u>-79.1</u>	<u>9</u>
35 min							
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected 16:45

Physical Appearance at Start

Color rust globes/clear  
 Odor NONE  
 Turbidity (> 100 NTU) 60  
 Sheen/Free Product NONE

Physical Appearance at Sampling

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 9  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered

Notes:

Mg/MND collected  
collected Field Blank

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/15/18  
 Site Name RACER Goldwater RD-LF-PFAS Hemphill  
 Location Flint, MI  
 Project No. 68545 68544  
 Personnel BS

Weather Rain  
 Well # 036-MW-75  
 Evacuation Method Diaphragm Pump  
 Sampling Method LOW FLOW

Well Information:

Depth of Well \* 17.73 ft.  
 Depth to Water \* 8.13 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling NO gal.(s)  
 Did well go dry? \_\_\_\_\_

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>9.15</u>	initial <u>13.94</u>	initial <u>1.055</u>	initial <u>1.89</u>	initial <u>7.98</u>	initial <u>-37.0</u>	initial <u>453</u>
9:35 5 min	<u>10.18</u>	<u>13.75</u>	<u>1.193</u>	<u>1.60</u>	<u>8.26</u>	<u>-48.4</u>	<u>205</u>
9:40 10 min	<u>10.59</u>	<u>13.65</u>	<u>1.182</u>	<u>1.14</u>	<u>8.17</u>	<u>-61.6</u>	<u>153</u>
9:45 15 min	<u>10.69</u>	<u>13.61</u>	<u>1.179</u>	<u>1.09</u>	<u>8.14</u>	<u>-62.5</u>	<u>129</u>
9:50 20 min	<u>10.85</u>	<u>13.51</u>	<u>1.174</u>	<u>1.01</u>	<u>8.10</u>	<u>-62.5</u>	<u>107</u>
9:55 25 min	<u>11.05</u>	<u>13.40</u>	<u>1.166</u>	<u>0.94</u>	<u>8.03</u>	<u>-60.0</u>	<u>90</u>
10:00 30 min	<u>11.25</u>	<u>13.37</u>	<u>1.161</u>	<u>0.85</u>	<u>7.92</u>	<u>-51.2</u>	<u>85</u>
10:05 35 min	<u>11.57</u>	<u>13.15</u>	<u>1.149</u>	<u>0.70</u>	<u>7.87</u>	<u>-47.9</u>	<u>86</u>
10:10 40 min	<u>11.69</u>	<u>13.05</u>	<u>1.140</u>	<u>0.59</u>	<u>7.87</u>	<u>-42.6</u>	<u>63</u>
10:15 45 min	<u>11.86</u>	<u>13.03</u>	<u>1.135</u>	<u>0.52</u>	<u>7.90</u>	<u>-37.7</u>	<u>65</u>
10:20 50 min	<u>11.94</u>	<u>13.00</u>	<u>1.133</u>	<u>0.53</u>	<u>7.82</u>	<u>-36.8</u>	<u>64</u>
10:25 55 min	<u>12.03</u>	<u>12.97</u>	<u>1.128</u>	<u>0.49</u>	<u>7.82</u>	<u>-36.5</u>	<u>65</u>
60 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 10:27

Physical Appearance at Start

Physical Appearance at Sampling

Color light gray  
 Odor None  
 Turbidity (> 100 NTU) 453  
 Sheen/Free Product None

Color Slightly cloudy  
 Odor None  
 Turbidity (> 100 NTU) 65  
 Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>NOC</u>	<u>3</u>	<u>40ml</u>	<u>NEL</u>	<u>No</u>
<u>Total metals</u>	<u>1</u>	<u>125ml</u>	<u>HNO3</u>	<u>No</u>
<u>Dissolved metals</u>	<u>1</u>	<u>125ml</u>	<u>HNO3</u>	<u>Yes</u>

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/15/18  
 Site Name RACER Coldwater RD LF - PFAS Hemphill  
 Location Flint, MI  
 Project No. 68545 68544  
 Personnel KPS

Weather Rain shows SO's  
 Well # OBG MW - 7D  
 Evacuation Method Bladder pump  
 Sampling Method LOW FLOW

Well Information:

Depth of Well \* 47.67 ft.  
 Depth to Water \* 12.50 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 4 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>12.63</u>	initial <u>11.81</u>	initial <u>0.504</u>	initial <u>9.77</u>	initial <u>8.12</u>	initial <u>28.4</u>	initial <u>520</u>
5 min	<u>12.63</u>	<u>11.60</u>	<u>0.502</u>	<u>10.50</u>	<u>8.10</u>	<u>29.5</u>	<u>530</u>
10 min	<u>12.63</u>	<u>11.63</u>	<u>0.501</u>	<u>9.97</u>	<u>8.11</u>	<u>29.1</u>	<u>589</u>
15 min	<u>12.63</u>	<u>11.70</u>	<u>0.501</u>	<u>11.33</u>	<u>8.16</u>	<u>31.9</u>	<u>505</u>
20 min	<u>12.63</u>	<u>11.68</u>	<u>0.500</u>	<u>11.64</u>	<u>8.15</u>	<u>31.8</u>	<u>497</u>
25 min	<u>12.63</u>	<u>11.59</u>	<u>0.499</u>	<u>12.18</u>	<u>8.18</u>	<u>31.1</u>	<u>416</u>
30 min							
35 min	<u>12.69</u>	<u>11.05</u>	<u>0.492</u>	<u>12.57</u>	<u>8.26</u>	<u>30.5</u>	<u>314</u>
40 min	<u>12.69</u>	<u>11.28</u>	<u>0.492</u>	<u>10.43</u>	<u>8.19</u>	<u>32.3</u>	<u>1100</u>
45 min	<u>12.69</u>	<u>11.19</u>	<u>0.491</u>	<u>7.74</u>	<u>8.12</u>	<u>33.4</u>	<u>1100</u>
50 min	<u>12.69</u>	<u>11.04</u>	<u>0.489</u>	<u>5.51</u>	<u>8.09</u>	<u>33.6</u>	<u>1100</u>
55 min	<u>12.69</u>	<u>11.12</u>	<u>0.490</u>	<u>3.73</u>	<u>8.07</u>	<u>33.8</u>	<u>1100</u>
60 min	<u>12.69</u>	<u>10.98</u>	<u>0.488</u>	<u>2.55</u>	<u>8.05</u>	<u>33.2</u>	<u>1100</u>
Water Sample: <u>12.05</u>		<u>10.58</u>	<u>0.483</u>	<u>1.44</u>	<u>8.06</u>	<u>39.9</u>	<u>998</u>

Time Collected \_\_\_\_\_

Physical Appearance at Start

Physical Appearance at Sampling

Color light gray  
 Odor NONE  
 Turbidity (> 100 NTU) 500  
 Sheen/Free Product NONE

Color light gray  
 Odor NONE  
 Turbidity (> 100 NTU) 700  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>VOC</u>	<u>3</u>	<u>60ml</u>	<u>HCl</u>	<u>NO</u>
<u>TOTAL Metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>NO</u>
<u>Dissolved Metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>YES</u>

Notes: 1100 Reset PUMP air line was loose

# OBG MW-7D

	DD	Temp	Con	DO	pH	dRP	Turb
1210	12.69	10.45	0.481	1.33	8.08	27.4	935
1215	12.69	10.72	0.484	2.36	8.09	23.8	844
1220	12.69	10.72	0.484	2.45	8.09	23.6	808
1225	12.69	10.81	0.485	2.63	8.08	23.6	769

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/15/12  
 Site Name RACER Coldwater RD LF - PFAS Humphill  
 Location Flint, MI  
 Project No. 68545 68544  
 Personnel KBS

Weather cloudy 50's  
 Well # 006 MW-15  
 Evacuation Method Peristaltic Pump  
 Sampling Method Low Flow

Well Information:

Depth of Well \* 27.22 ft.  
 Depth to Water \* 12.35 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling \_\_\_\_\_ gal.(s)  
 Did well go dry? no

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within range

pH yes  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

1305  
1310  
1315  
1320  
1325  
1330

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>13.02</u>	initial <u>13.96</u>	initial <u>1.081</u>	initial <u>3.13</u>	initial <u>7.820</u>	initial <u>29.3</u>	initial <u>27</u>
5 min	<u>13.51</u>	<u>13.93</u>	<u>1.129</u>	<u>0.74</u>	<u>7.81</u>	<u>18.4</u>	<u>20</u>
10 min	<u>13.81</u>	<u>14.11</u>	<u>1.145</u>	<u>0.51</u>	<u>7.81</u>	<u>16.0</u>	<u>20</u>
15 min	<u>14.05</u>	<u>14.08</u>	<u>1.143</u>	<u>0.53</u>	<u>7.88</u>	<u>19.5</u>	<u>15</u>
20 min	<u>14.27</u>	<u>14.14</u>	<u>1.135</u>	<u>0.62</u>	<u>7.87</u>	<u>22.6</u>	<u>12</u>
25 min	<u>14.45</u>	<u>14.22</u>	<u>1.127</u>	<u>0.64</u>	<u>7.85</u>	<u>23.2</u>	<u>10</u>
30 min	<u>14.61</u>	<u>14.38</u>	<u>1.124</u>	<u>0.62</u>	<u>7.84</u>	<u>21.9</u>	<u>10</u>
35 min	_____	_____	_____	_____	_____	_____	_____
40 min	_____	_____	_____	_____	_____	_____	_____
45 min	_____	_____	_____	_____	_____	_____	_____
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 1335

Physical Appearance at Start

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 27  
 Sheen/Free Product NONE

Physical Appearance at Sampling

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 10  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>1066</u>	<u>3</u>	<u>40 ml</u>	<u>HCl</u>	<u>NO</u>
<u>TOTAL metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>NO</u>
<u>Dissolved metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>yes</u>

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/16/18  
 Site Name RACER Coldwater RD LF - PFAS Hemphill  
 Location Flint, MI  
 Project No. 68545- 68544  
 Personnel CRS

Weather SUNNY 90's  
 Well # OBG MW-25  
 Evacuation Method Resistive Pump  
 Sampling Method LOW FLOW

Well Information:

Depth of Well \* 20.30 ft.  
 Depth to Water \* 10.19 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1/2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within range

pH YES  
 ORP YES  
 Conductivity YES  
 DO YES

Water parameters:

12:55  
13:00  
13:05  
13:10  
13:15  
13:20  
13:25

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>11.03</u>	initial <u>15.48</u>	initial <u>1.717</u>	initial <u>1.15</u>	initial <u>8.24</u>	initial <u>-55.2</u>	initial <u>45.1</u>
5 min	<u>11.44</u>	<u>15.66</u>	<u>1.737</u>	<u>0.63</u>	<u>8.27</u>	<u>-50.4</u>	<u>28</u>
10 min	<u>11.66</u>	<u>15.86</u>	<u>1.752</u>	<u>0.47</u>	<u>8.44</u>	<u>-48.6</u>	<u>25</u>
15 min	<u>12.20</u>	<u>15.91</u>	<u>1.755</u>	<u>0.32</u>	<u>8.52</u>	<u>-48.7</u>	<u>25</u>
20 min	<u>12.49</u>	<u>15.98</u>	<u>1.750</u>	<u>0.28</u>	<u>8.54</u>	<u>-49.9</u>	<u>20</u>
25 min	<u>12.88</u>	<u>15.90</u>	<u>1.753</u>	<u>0.28</u>	<u>8.58</u>	<u>-51.1</u>	<u>15</u>
30 min	<u>13.05</u>	<u>15.72</u>	<u>1.745</u>	<u>0.27</u>	<u>8.59</u>	<u>-52.2</u>	<u>15</u>
35 min	<u>13.34</u>	<u>15.72</u>	<u>1.743</u>	<u>0.28</u>	<u>8.59</u>	<u>-52.5</u>	<u>14</u>
40 min	_____	_____	_____	_____	_____	_____	_____
45 min	_____	_____	_____	_____	_____	_____	_____
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 1328

Physical Appearance at Start \_\_\_\_\_

Physical Appearance at Sampling \_\_\_\_\_

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 45.1  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 14  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>VOL</u>	<u>3</u>	<u>40 ml</u>	<u>HCL</u>	<u>NO</u>
<u>volatile metals</u>	<u>1</u>	<u>250 ml</u>	<u>HNO3</u>	<u>YES</u>
<u>dissolved metals</u>	<u>1</u>	<u>250 ml</u>	<u>HNO3</u>	<u>YES</u>

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/16/18  
 Site Name RACER Coldwater RD LF - PFAS Hemphill Rd  
 Location Flint, MI  
 Project No. 68545-68544  
 Personnel KBS

Weather Sunny 50's  
 Well # OBG MW-2D  
 Evacuation Method Peristaltic Pump  
 Sampling Method Low Flow

Well Information:

Depth of Well \* 38.40 ft.  
 Depth to Water \* 20.14 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1/2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial		initial	initial	initial	initial	initial	initial
5 min	<u>20.49</u>	<u>13.45</u>	<u>1.068</u>	<u>0.59</u>	<u>9.36</u>	<u>-93.9</u>	<u>42</u>
10 min	<u>20.54</u>	<u>12.96</u>	<u>1.056</u>	<u>0.35</u>	<u>9.42</u>	<u>-91.9</u>	<u>43</u>
13:55 15 min	<u>20.64</u>	<u>12.84</u>	<u>1.053</u>	<u>0.32</u>	<u>9.22</u>	<u>-92.9</u>	<u>38</u>
14:00 20 min	<u>20.64</u>	<u>12.75</u>	<u>1.047</u>	<u>0.27</u>	<u>9.17</u>	<u>-89.3</u>	<u>25</u>
14:05 25 min	<u>20.64</u>	<u>12.68</u>	<u>1.047</u>	<u>0.24</u>	<u>9.13</u>	<u>-93.4</u>	<u>25</u>
14:10 30 min	<u>20.64</u>	<u>12.41</u>	<u>1.040</u>	<u>0.22</u>	<u>9.05</u>	<u>-91.8</u>	<u>20</u>
14:15 35 min	<u>20.64</u>	<u>12.37</u>	<u>1.039</u>	<u>0.20</u>	<u>9.01</u>	<u>-92.2</u>	<u>17</u>
14:20 40 min	<u>20.64</u>	<u>12.24</u>	<u>1.037</u>	<u>0.21</u>	<u>8.93</u>	<u>-94.6</u>	<u>15</u>
14:25 45 min	<u>20.64</u>	<u>12.21</u>	<u>1.037</u>	<u>0.20</u>	<u>8.80</u>	<u>-96.2</u>	<u>15</u>
14:30 50 min	<u>20.64</u>	<u>12.23</u>	<u>1.037</u>	<u>0.19</u>	<u>8.79</u>	<u>-95.5</u>	<u>12</u>
14:35 55 min	<u>20.64</u>	<u>12.22</u>	<u>1.038</u>	<u>0.19</u>	<u>8.74</u>	<u>-93.6</u>	<u>12</u>
14:40 60 min							

Water Sample:

Time Collected 1440

Physical Appearance at Start \_\_\_\_\_ Physical Appearance at Sampling \_\_\_\_\_

Color light gray Color Clear  
 Odor NONE Odor NONE  
 Turbidity (> 100 NTU) 2 Turbidity (> 100 NTU) 12  
 Sheen/Free Product NONE Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>VOC</u>	<u>3</u>	<u>40ml</u>	<u>HCL</u>	<u>NO</u>
<u>TOTAL Metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>NO</u>
<u>DISSOLVED METALS</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>YES</u>

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/16/18 / 10/17/18  
 Site Name RACER Coldwater RD LF - PFAS  
 Location Flint, MI  
 Project No. 68545  
 Personnel [Signature]

Weather 9:11 AM 50's  
 Well # OBG MW-65  
 Evacuation Method peristaltic pump  
 Sampling Method Low Flow

Well Information:

Depth of Well \* 19.15 ft.  
 Depth to Water \* 14.38 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 1/2 gal.(s)  
 Did well go dry? no

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH yes  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

1045  
1050  
1055  
1100  
1105  
1110  
1115  
1120  
1125  
1130

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>14.75</u>	<u>11.82</u>	<u>1135</u>	<u>8.34</u>	<u>6.39</u>	<u>242.1</u>	<u>29.3</u>
5 min	<u>15.11</u>	<u>11.90</u>	<u>0.979</u>	<u>7.27</u>	<u>6.82</u>	<u>216.6</u>	<u>27</u>
10 min	<u>15.51</u>	<u>12.09</u>	<u>0.960</u>	<u>2.64</u>	<u>6.98</u>	<u>195.0</u>	<u>23</u>
15 min	<u>15.99</u>	<u>12.22</u>	<u>0.959</u>	<u>2.61</u>	<u>7.31</u>	<u>125.0</u>	<u>23</u>
20 min	<u>16.29</u>	<u>12.40</u>	<u>0.960</u>	<u>2.07</u>	<u>7.49</u>	<u>88.1</u>	<u>16</u>
25 min	<u>16.65</u>	<u>12.36</u>	<u>0.952</u>	<u>1.49</u>	<u>7.55</u>	<u>72.0</u>	<u>12</u>
30 min	<u>17.00</u>	<u>12.25</u>	<u>0.951</u>	<u>1.06</u>	<u>7.65</u>	<u>57.6</u>	<u>12</u>
35 min	<u>17.26</u>	<u>12.09</u>	<u>0.939</u>	<u>0.95</u>	<u>7.62</u>	<u>58.4</u>	<u>13</u>
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected \_\_\_\_\_

Physical Appearance at Start Slightly cloudy      Physical Appearance at Sampling clear

Color \_\_\_\_\_      Color \_\_\_\_\_  
 Odor NONE      Odor NONE  
 Turbidity (> 100 NTU) 29.3      Turbidity (> 100 NTU) 13  
 Sheen/Free Product NONE      Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>DO</u>	<u>3</u>	<u>40ml</u>	<u>HCl</u>	<u>No</u>
<u>TOTAL METALS</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>No</u>
<u>DISSOLVED METALS</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>Yes</u>

Notes: Well went dry will collect once recharges

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/10/18  
 Site Name RACER Coldwater RD LF - PFAS Hemphill  
 Location Flint, MI  
 Project No. 68545 68544  
 Personnel KBS

Weather Sunny 80's  
 Well # OBG MW-60D  
 Evacuation Method Peristaltic Pump  
 Sampling Method LOW FLOW

Well Information:

Depth of Well \* 44.42 ft.  
 Depth to Water \* 17.95 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal. (s)  
 3X Volume of Water in Well \_\_\_\_\_ gal. (s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 1/2 gal. (s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH YES  
 ORP YES  
 Conductivity YES  
 DO YES

Water parameters:

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>18.31</u>	initial <u>11.05</u>	initial <u>0.1603</u>	initial <u>5.50</u>	initial <u>8.60</u>	initial <u>-41.2</u>	initial <u>27</u>
5 min	<u>19.05</u>	<u>10.92</u>	<u>0.1590</u>	<u>0.79</u>	<u>8.55</u>	<u>-19.4</u>	<u>25</u>
10 min	<u>19.25</u>	<u>10.91</u>	<u>0.1588</u>	<u>0.57</u>	<u>8.51</u>	<u>-12.5</u>	<u>25</u>
15 min	<u>19.48</u>	<u>10.80</u>	<u>0.1587</u>	<u>0.45</u>	<u>8.48</u>	<u>-5.7</u>	<u>19</u>
20 min	<u>19.65</u>	<u>10.81</u>	<u>0.1587</u>	<u>0.39</u>	<u>8.46</u>	<u>-1.0</u>	<u>19</u>
25 min	<u>19.87</u>	<u>10.77</u>	<u>0.1589</u>	<u>0.32</u>	<u>8.44</u>	<u>4.4</u>	<u>18</u>
30 min	<u>20.08</u>	<u>10.69</u>	<u>0.1591</u>	<u>0.27</u>	<u>8.43</u>	<u>4.5</u>	<u>17.4</u>
35 min	<u>20.12</u>	<u>10.80</u>	<u>0.1592</u>	<u>0.26</u>	<u>8.57</u>	<u>-19.1</u>	<u>14.8</u>
40 min	<u>20.25</u>	<u>10.70</u>	<u>0.1593</u>	<u>0.25</u>	<u>8.64</u>	<u>-25.0</u>	<u>15.0</u>
45 min	<u>20.37</u>	<u>10.81</u>	<u>0.1596</u>	<u>0.23</u>	<u>8.63</u>	<u>-17.0</u>	<u>13.2</u>
50 min	<u>20.42</u>	<u>10.90</u>	<u>0.1597</u>	<u>0.22</u>	<u>8.66</u>	<u>-22.3</u>	<u>11.1</u>
55 min							
60 min							

Water Sample:

Time Collected 1227

Physical Appearance at Start

Physical Appearance at Sampling

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 27  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 11.1  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>VOC</u>	<u>3</u>	<u>40 ml HCL glass</u>	<u>HCL</u>	<u>NO</u>
<u>METAL Metals</u>	<u>1</u>	<u>250 ml</u>	<u>HNO3</u>	<u>NO</u>
<u>dissolved metals</u>	<u>1</u>	<u>250 ml</u>	<u>HNO3</u>	<u>YES</u>

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/16/18  
 Site Name RACER Coldwater RD LF - PFAS - Hemphill  
 Location Flint, MI  
 Project No. 88545 08544  
 Personnel KBS

Weather SUNNY 50's  
 Well # OBG - MW - 55  
 Evacuation Method Peristaltic  
 Sampling Method LOW FLOW

Well Information:

Depth of Well \* 26.29 ft.  
 Depth to Water \* 15.66 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1/2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH 4.5  
 ORP 415  
 Conductivity 415  
 DO 4.05

Water parameters:

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial		initial <u>16.04</u>	initial <u>2.040</u>	initial <u>3.00</u>	initial <u>7.94</u>	initial <u>-147.6</u>	initial <u>323</u>
1510 5 min	<u>16.51</u>	<u>16.00</u>	<u>1.985</u>	<u>0.95</u>	<u>7.91</u>	<u>-113.1</u>	<u>220</u>
1515 10 min	<u>16.85</u>	<u>16.11</u>	<u>1.973</u>	<u>0.83</u>	<u>7.80</u>	<u>-99.0</u>	<u>319</u>
1500 15 min	<u>17.11</u>	<u>16.17</u>	<u>1.961</u>	<u>0.62</u>	<u>7.85</u>	<u>-75.0</u>	<u>318</u>
1505 20 min	<u>17.42</u>	<u>16.13</u>	<u>1.957</u>	<u>0.40</u>	<u>7.80</u>	<u>-64.5</u>	<u>315</u>
1530 25 min		<u>15.39</u>	<u>1.940</u>	<u>0.33</u>	<u>7.89</u>	<u>-62.3</u>	
1535 30 min	<u>17.65</u>	<u>14.93</u>	<u>1.970</u>	<u>0.28</u>	<u>7.98</u>	<u>-60.1</u>	<u>315</u>
1540 35 min	<u>17.75</u>	<u>14.105</u>	<u>2.061</u>	<u>0.24</u>	<u>8.07</u>	<u>-60.9</u>	<u>314</u>
1545 40 min	<u>17.83</u>	<u>14.72</u>	<u>2.183</u>	<u>0.22</u>	<u>8.10</u>	<u>-61.9</u>	<u>301</u>
1550 45 min	<u>17.91</u>	<u>14.54</u>	<u>2.211</u>	<u>0.22</u>	<u>8.10</u>	<u>-61.2</u>	<u>278</u>
1555 50 min	<u>17.90</u>	<u>14.59</u>	<u>2.231</u>	<u>0.21</u>	<u>8.08</u>	<u>-57.9</u>	<u>240</u>
55 min							
60 min							

Water Sample:

Time Collected 1557

Physical Appearance at Start

Color Yellow  
 Odor chemical odor  
 Turbidity (> 100 NTU) 323  
 Sheen/Free Product NONE

Physical Appearance at Sampling

Color Yellowish  
 Odor chemical odor  
 Turbidity (> 100 NTU) 240  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>VOC</u>	<u>3</u>	<u>40 ml</u>	<u>HCL</u>	<u>No</u>
<u>TOTAL metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>MO</u>
<u>Dissolved metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>YS</u>

Notes: MS/MSD

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/10/18  
 Site Name RACER Coldwater RD LF - PFAS  
 Location Flint, MI  
 Project No. 68545-08544  
 Personnel LBS

Weather Sunny 50's  
 Well # 086 MW-35  
 Evacuation Method Peristaltic  
 Sampling Method LOW FLOW

Well Information:

Depth of Well \* 27.00 ft.  
 Depth to Water \* 23.23 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH YES  
 ORP YES  
 Conductivity YES  
 DO YES

Water parameters:

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>23.25</u>	initial <u>15.09</u>	initial <u>2.711</u>	initial <u>1.37</u>	initial <u>7.78</u>	initial <u>19.0</u>	initial <u>16.4</u>
5 min	<u>23.25</u>	<u>14.93</u>	<u>2.696</u>	<u>0.82</u>	<u>7.73</u>	<u>20.1</u>	<u>16</u>
10 min	<u>23.25</u>	<u>14.95</u>	<u>2.691</u>	<u>0.51</u>	<u>7.66</u>	<u>25.8</u>	<u>15</u>
15 min	<u>23.25</u>	<u>14.91</u>	<u>2.687</u>	<u>0.44</u>	<u>7.63</u>	<u>26.2</u>	<u>14</u>
20 min	<u>23.25</u>	<u>14.82</u>	<u>2.676</u>	<u>0.37</u>	<u>7.60</u>	<u>25.0</u>	<u>13</u>
25 min	<u>23.25</u>	<u>14.68</u>	<u>2.660</u>	<u>0.22</u>	<u>7.57</u>	<u>23.1</u>	<u>13</u>
30 min	<u>23.25</u>	<u>14.64</u>	<u>2.659</u>	<u>0.27</u>	<u>7.53</u>	<u>21.0</u>	<u>10</u>
35 min	<u>23.25</u>	<u>14.62</u>	<u>2.659</u>	<u>0.25</u>	<u>7.52</u>	<u>20.4</u>	<u>10</u>
40 min	<u>23.25</u>	<u>14.59</u>	<u>2.654</u>	<u>0.24</u>	<u>7.50</u>	<u>18.8</u>	<u>8</u>
45 min	_____	_____	_____	_____	_____	_____	_____
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 1717

Physical Appearance at Start \_\_\_\_\_ Physical Appearance at Sampling \_\_\_\_\_  
 Color clear Color clear  
 Odor NONE Odor NONE  
 Turbidity (> 100 NTU) 16.4 Turbidity (> 100 NTU) 8  
 Sheen/Free Product NONE Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>VOC</u>	<u>3</u>	<u>40 ml</u>	<u>HCL</u>	<u>NO</u>
<u>TOTAL metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>NO</u>
<u>Dissolved metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>YES</u>

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/17/18  
 Site Name RACER Goldwater RD LE PFAS Homphill  
 Location Flint, MI  
 Project No. 68545 68544  
 Personnel KBS

Weather clouds / wind 40's  
 Well # 036-05-MW-1  
 Evacuation Method peristaltic  
 Sampling Method Low Flow

Well Information:

Depth of Well \* 30.17 ft.  
 Depth to Water \* 21.98 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:
X 2" Diameter Well = 0.163 X LWC
4" Diameter Well = 0.653 X LWC
6" Diameter Well = 1.469 X LWC

Volume removed before sampling \_\_\_\_\_ gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH one point  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>22.40</u>	initial <u>10.59</u>	initial <u>0.747</u>	initial <u>7.75</u>	initial <u>7.38</u>	initial <u>11.9</u>	initial <u>38</u>
5 min	<u>22.50</u>	<u>10.54</u>	<u>0.735</u>	<u>2.21</u>	<u>7.44</u>	<u>8.7</u>	<u>30</u>
10 min	<u>22.64</u>	<u>10.52</u>	<u>0.727</u>	<u>1.35</u>	<u>7.46</u>	<u>6.1</u>	<u>25</u>
15 min	<u>22.81</u>	<u>10.70</u>	<u>0.721</u>	<u>0.81</u>	<u>7.47</u>	<u>5.2</u>	<u>22</u>
20 min	<u>22.96</u>	<u>10.73</u>	<u>0.718</u>	<u>0.56</u>	<u>7.45</u>	<u>7.7</u>	<u>18</u>
25 min	<u>23.20</u>	<u>10.75</u>	<u>0.714</u>	<u>0.38</u>	<u>7.43</u>	<u>10.0</u>	<u>15</u>
30 min	<u>23.29</u>	<u>10.75</u>	<u>0.713</u>	<u>0.35</u>	<u>7.42</u>	<u>9.9</u>	<u>12</u>
35 min	<u>23.40</u>	<u>10.82</u>	<u>0.713</u>	<u>0.32</u>	<u>7.41</u>	<u>10.2</u>	<u>12</u>
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected 1335

Physical Appearance at Start

Physical Appearance at Sampling

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 3  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 12  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>DOC</u>	<u>2</u>	<u>40 ml</u>	<u>HCL</u>	<u>NO</u>
<u>TOTAL metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>NO</u>
<u>Dissolved metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>YES</u>

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/17/18  
 Site Name RACER Coldwater RD LF - PFAS  
 Location Flint, MI  
 Project No. 68545  
 Personnel AB

Weather cloudy / wind 40's  
 Well # OBG-05 MW-2  
 Evacuation Method Peristaltic Pump  
 Sampling Method LOW FLOW

Well Information:

Depth of Well \* 30.16 ft.  
 Depth to Water \* 21.24 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling \_\_\_\_\_ gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH yes  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>21.44</u>	initial <u>11.54</u>	initial <u>0.719</u>	initial <u>1.35</u>	initial <u>7.46</u>	initial <u>-4.8</u>	initial <u>28</u>
1355 5 min	<u>21.52</u>	<u>11.53</u>	<u>0.719</u>	<u>0.96</u>	<u>7.50</u>	<u>-6.9</u>	<u>18</u>
1400 10 min	<u>21.59</u>	<u>11.51</u>	<u>0.716</u>	<u>0.61</u>	<u>7.51</u>	<u>-9.9</u>	<u>15</u>
1405 15 min	<u>21.70</u>	<u>11.55</u>	<u>0.717</u>	<u>0.41</u>	<u>7.52</u>	<u>-13.8</u>	<u>15</u>
1410 20 min	<u>21.74</u>	<u>11.65</u>	<u>0.718</u>	<u>0.30</u>	<u>7.51</u>	<u>-14.0</u>	<u>13</u>
1415 25 min	<u>21.84</u>	<u>11.60</u>	<u>0.717</u>	<u>0.27</u>	<u>7.51</u>	<u>-14.1</u>	<u>10</u>
1420 30 min	<u>21.92</u>	<u>11.66</u>	<u>0.716</u>	<u>0.25</u>	<u>7.52</u>	<u>-16.6</u>	<u>10</u>
35 min							
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected H2O

Physical Appearance at Start

Physical Appearance at Sampling

Color Clear  
 Odor NONE  
 Turbidity (> 100 NTU) \_\_\_\_\_  
 Sheen/Free Product NONE

Color Clear  
 Odor NONE  
 Turbidity (> 100 NTU) \_\_\_\_\_  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>DOC</u>	<u>3</u>	<u>40 ml</u>	<u>HCL</u>	<u>NO</u>
<u>TOTAL Metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>NO</u>
<u>Dissolved Metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>YES</u>

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/17/18  
 Site Name RACER Goldwater RD LF-PFAS Hemphill  
 Location Flint, MI  
 Project No. 68545 68544  
 Personnel ILBS

Weather cloudy 40's  
 Well # 030-05-MW-5  
 Evacuation Method Peristaltic Pump  
 Sampling Method LOW FLOW

Well Information:

Depth of Well \* 28.43 ft.  
 Depth to Water \* 24.97 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH one point  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>25.11</u>	initial <u>10.31</u>	initial <u>1.743</u>	initial <u>1.99</u>	initial <u>7.39</u>	initial <u>-22.3</u>	initial <u>25</u>
5 min	<u>25.11</u>	<u>10.37</u>	<u>1.750</u>	<u>1.86</u>	<u>7.39</u>	<u>-24.6</u>	<u>38</u>
10 min	<u>25.11</u>	<u>10.54</u>	<u>1.742</u>	<u>0.63</u>	<u>7.35</u>	<u>-19.5</u>	<u>20</u>
15 min	<u>25.11</u>	<u>10.50</u>	<u>1.725</u>	<u>0.45</u>	<u>7.36</u>	<u>-17.7</u>	<u>19</u>
20 min	<u>25.11</u>	<u>10.48</u>	<u>1.708</u>	<u>0.42</u>	<u>7.35</u>	<u>-15.7</u>	<u>16</u>
25 min	<u>25.11</u>	<u>10.53</u>	<u>1.669</u>	<u>0.35</u>	<u>7.34</u>	<u>-14.7</u>	<u>11</u>
30 min	<u>25.11</u>	<u>10.55</u>	<u>1.638</u>	<u>0.31</u>	<u>7.33</u>	<u>-11.2</u>	<u>9</u>
35 min	<u>25.11</u>	<u>10.59</u>	<u>1.623</u>	<u>0.30</u>	<u>7.32</u>	<u>-10.6</u>	<u>10</u>
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected 1145

Physical Appearance at Start

Color clear  
 Odor NONE chemical odor  
 Turbidity (> 100 NTU) \_\_\_\_\_  
 Sheen/Free Product NONE

Physical Appearance at Sampling

Color clear  
 Odor NONE chemical odor  
 Turbidity (> 100 NTU) \_\_\_\_\_  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>DOC</u>	<u>3</u>	<u>40 ml</u>	<u>HCL</u>	<u>NO</u>
<u>TOTAL METALS</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>NO</u>
<u>DISSOLVED METALS</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>YES</u>

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/17/18  
 Site Name RACER Goldwater RD LF-PFAS *Memphis*  
 Location Flint, MI  
 Project No. 68545 *48544*  
 Personnel KBS

Weather mostly cloudy 40s  
 Well # OBG-05-MW-4  
 Evacuation Method peristaltic pump  
 Sampling Method Low Flow

Well Information:

Depth of Well \* 27.76 ft.  
 Depth to Water \* 24.61 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:
X 2" Diameter Well = 0.163 X LWC
4" Diameter Well = 0.653 X LWC
6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH one point  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

10:25  
10:30  
10:35  
10:40  
10:45  
10:50

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>24.61</u>	initial <u>9.90</u>	initial <u>1.373</u>	initial <u>4.76</u>	initial <u>7.56</u>	initial <u>-44.9</u>	initial <u>18</u>
5 min	<u>24.61</u>	<u>9.81</u>	<u>1.370</u>	<u>1.63</u>	<u>7.57</u>	<u>-49.5</u>	<u>10</u>
10 min	<u>24.61</u>	<u>9.77</u>	<u>1.367</u>	<u>1.04</u>	<u>7.56</u>	<u>-50.4</u>	<u>8</u>
15 min	<u>24.61</u>	<u>9.92</u>	<u>1.368</u>	<u>0.72</u>	<u>7.54</u>	<u>-50.2</u>	<u>8</u>
20 min	<u>24.61</u>	<u>9.98</u>	<u>1.367</u>	<u>0.57</u>	<u>7.52</u>	<u>-48.7</u>	<u>5</u>
25 min	<u>24.61</u>	<u>9.98</u>	<u>1.365</u>	<u>0.53</u>	<u>7.53</u>	<u>-50.3</u>	<u>3</u>
30 min	<u>24.61</u>	<u>9.99</u>	<u>1.366</u>	<u>0.51</u>	<u>7.55</u>	<u>-51.0</u>	<u>3</u>
35 min							
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected 1052

Physical Appearance at Start

Color Clear  
 Odor NONE  
 Turbidity (> 100 NTU) 18  
 Sheen/Free Product NONE

Physical Appearance at Sampling

Color Clear  
 Odor NONE  
 Turbidity (> 100 NTU) 3  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>vac</u>	<u>3</u>	<u>110 ml</u>	<u>HCL</u>	<u>No</u>
<u>Total metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>No</u>
<u>Dissolved metals</u>	<u>1</u>	<u>125 ml</u>	<u>HNO3</u>	<u>YES</u>

Notes:

O'Brien & Gere Engineers, Inc.

Standard Groundwater Sampling Log

Date 10/17/18  
 Site Name RACER Coldwater RD LF - PFAS Henry Hill  
 Location Flint, MI  
 Project No. 68545-68544  
 Personnel KRB

Weather cloudy 40's  
 Well # 066-05-MW-3  
 Evacuation Method peristaltic  
 Sampling Method Low Flow

Well Information:

Depth of Well \* 30.28 ft.  
 Depth to Water \* 26.16 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)  
 3X Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within range

pH new point  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

	Drawdown measured	Temperature Celsius	Conductivity mS/cm	Dissolved Oxygen mg/L	pH	ORP mV	Turbidity NTUs
initial	<u>26.17</u>	initial <u>10.01</u>	initial <u>1.324</u>	initial <u>3.95</u>	initial <u>7.66</u>	initial <u>-64.4</u>	initial <u>24</u>
5 min	<u>26.17</u>	<u>10.02</u>	<u>1.278</u>	<u>1.69</u>	<u>7.82</u>	<u>-66.5</u>	<u>22</u>
9:35 10 min	<u>26.17</u>	<u>10.00</u>	<u>1.260</u>	<u>0.95</u>	<u>7.77</u>	<u>-61.7</u>	<u>18</u>
9:40 15 min	<u>26.17</u>	<u>10.00</u>	<u>1.263</u>	<u>0.87</u>	<u>7.74</u>	<u>-60.2</u>	<u>10</u>
9:45 20 min	<u>26.17</u>	<u>10.03</u>	<u>1.259</u>	<u>0.70</u>	<u>7.67</u>	<u>-57.6</u>	<u>5</u>
9:50 25 min	<u>26.17</u>	<u>10.04</u>	<u>1.252</u>	<u>0.72</u>	<u>7.63</u>	<u>-56.7</u>	<u>4</u>
9:55 30 min	<u>26.17</u>	<u>9.96</u>	<u>1.247</u>	<u>0.68</u>	<u>7.61</u>	<u>-54.9</u>	<u>5</u>
35 min							
40 min							
45 min							
50 min							
55 min							
60 min							

Water Sample:

Time Collected 9:56

Physical Appearance at Start

Physical Appearance at Sampling


Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 0  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) 5  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
<u>LWC</u>	<u>3</u>	<u>40 ml</u>	<u>NO</u>	<u>HCL</u>
<u>Total Metals</u>	<u>1</u>	<u>125 ml</u>	<u>NO</u>	<u>HNO3</u>
<u>Dissolved Metals</u>	<u>1</u>	<u>125 ml</u>	<u>YES</u>	<u>HNO3</u>

Notes:



**Exhibit B**  
**Groundwater Analytical**  
**Data – April 2018**



# Analytical Laboratory Report

Report ID: S89087.01(01)  
Generated on 04/24/2018

Report to

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Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
2260 E Saginaw St  
East Lansing, MI 48823

Phone: 414-837-3607 FAX:  
Email: Clifford.Yantz@obg.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:  
John Lavery (johnlavery@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

Report Summary

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Lab Sample ID(s): S89087.01-S89087.21  
Project: RACER Hemphill Rd SA Sampling  
Collected Date: 04/17/2018 - 04/18/2018  
Submitted Date/Time: 04/19/2018 10:29  
Sampled by: Kevin Schneider  
P.O. #: 11700374

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## **General Report Notes**

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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

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

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

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

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

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

## **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
Alaska CSLAP	#17-001

## Qualifier Descriptions

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

## Glossary of Abbreviations

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



# Analytical Laboratory Report

## Method Summary

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



# Analytical Laboratory Report

## Sample Summary (21 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S89087.01	OBG-MW-7S	Groundwater	04/17/18 10:40
S89087.02	OBG-MW-7D	Groundwater	04/17/18 11:30
S89087.03	OBG-MW-1S	Groundwater	04/17/18 12:35
S89087.04	OBG-MW-6S	Groundwater	04/17/18 13:30
S89087.05	OBG-MW-6D	Groundwater	04/17/18 14:45
S89087.06	OBG-MW-2S	Groundwater	04/17/18 15:45
S89087.07	OBG-MW-2S Collocated	Groundwater	04/17/18 15:45
S89087.08	OBG-MW-2D	Groundwater	04/17/18 16:45
S89087.09	OBG-OS-MW-3	Groundwater	04/18/18 09:25
S89087.10	OBG-OS-MW-4	Groundwater	04/18/18 10:15
S89087.11	OBG-OS-MW-5	Groundwater	04/18/18 12:05
S89087.12	OBG-OS-MW-1	Groundwater	04/18/18 13:25
S89087.13	OBG-OS-MW-2	Groundwater	04/18/18 14:20
S89087.14	OBG-MW-5S	Groundwater	04/18/18 15:45
S89087.15	OBG-MW-3S	Groundwater	04/18/18 16:45
S89087.16	OBG-MW-3S MS	Groundwater	04/18/18 16:45
S89087.17	OBG-MW-3S MSD	Groundwater	04/18/18 16:45
S89087.18	DUP-1	Groundwater	04/18/18 00:01
S89087.19	Field Blank-1	Liquid	04/18/18 17:15
S89087.20	Equipment Blank-1	Liquid	04/18/18 17:20
S89087.21	Trip Blank-1	Liquid	04/18/18 00:01



# Analytical Laboratory Report

**Lab Sample ID: S89087.01**

Sample Tag: OBG-MW-7S

Collected Date/Time: 04/17/2018 10:40

Matrix: Groundwater

COC Reference: 114657

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		
<b>Metals</b>								
Arsenic, Dissolved	0.010	mg/L	0.002	E200.8	04/20/18 10:48	CCM	7440-38-2	
Arsenic	0.010	mg/L	0.002	E200.8	04/20/18 10:44	CCM	7440-38-2	
Barium, Dissolved	0.175	mg/L	0.005	E200.8	04/20/18 10:48	CCM	7440-39-3	
Barium	0.177	mg/L	0.005	E200.8	04/20/18 10:44	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 10:48	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 10:44	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 10:48	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 10:44	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 10:48	CCM	7440-66-6	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 10:44	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 16:43	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 16:43	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 16:43	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 16:43	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 16:43	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 16:43	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 16:43	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.01 (continued)

Sample Tag: OBG-MW-7S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 16:43	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:43	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:43	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.02

Sample Tag: OBG-MW-7D

Collected Date/Time: 04/17/2018 11:30

Matrix: Groundwater

COC Reference: 114657

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

**Metals**

Arsenic, Dissolved	0.027	mg/L	0.002	E200.8	04/20/18 10:50	CCM	7440-38-2	
Arsenic	0.029	mg/L	0.002	E200.8	04/20/18 10:49	CCM	7440-38-2	
Barium, Dissolved	0.089	mg/L	0.005	E200.8	04/20/18 10:50	CCM	7440-39-3	
Barium	0.092	mg/L	0.005	E200.8	04/20/18 10:49	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 10:50	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 10:49	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 10:50	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 10:49	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 10:50	CCM	7440-66-6	
Zinc	0.008	mg/L	0.005	E200.8	04/20/18 10:49	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 17:03	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 17:03	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 17:03	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 17:03	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 17:03	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 17:03	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 17:03	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.02 (continued)

Sample Tag: OBG-MW-7D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 17:03	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	108-86-1	
1,3,5-Trimethylbenzene	2	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	98-06-6	
1,2,4-Trimethylbenzene	6	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	95-50-1	
1,2,3-Trimethylbenzene	5	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:03	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:03	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.03

Sample Tag: OBG-MW-1S

Collected Date/Time: 04/17/2018 12:35

Matrix: Groundwater

COC Reference: 114657

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

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

Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

**Metals**

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	04/20/18 10:52	CCM	7440-38-2	
Arsenic	Not detected	mg/L	0.002	E200.8	04/20/18 10:51	CCM	7440-38-2	
Barium, Dissolved	0.152	mg/L	0.005	E200.8	04/20/18 10:52	CCM	7440-39-3	
Barium	0.158	mg/L	0.005	E200.8	04/20/18 10:51	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 10:52	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 10:51	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 10:52	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 10:51	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 10:52	CCM	7440-66-6	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 10:51	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 17:24	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 17:24	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 17:24	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 17:24	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 17:24	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 17:24	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 17:24	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.03 (continued)

Sample Tag: OBG-MW-1S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 17:24	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:24	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:24	JML	91-57-6	



# Analytical Laboratory Report

**Lab Sample ID: S89087.04**

Sample Tag: OBG-MW-6S

Collected Date/Time: 04/17/2018 13:30

Matrix: Groundwater

COC Reference: 114657

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		
<b>Metals</b>								
Arsenic, Dissolved	0.006	mg/L	0.002	E200.8	04/20/18 10:54	CCM	7440-38-2	
Arsenic	0.007	mg/L	0.002	E200.8	04/20/18 10:53	CCM	7440-38-2	
Barium, Dissolved	0.145	mg/L	0.005	E200.8	04/20/18 10:54	CCM	7440-39-3	
Barium	0.148	mg/L	0.005	E200.8	04/20/18 10:53	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 10:54	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 10:53	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 10:54	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 10:53	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 10:54	CCM	7440-66-6	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 10:53	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 17:44	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 17:44	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 17:44	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 17:44	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 17:44	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 17:44	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 17:44	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.04 (continued)

Sample Tag: OBG-MW-6S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 17:44	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 17:44	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 17:44	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.05

Sample Tag: OBG-MW-6D

Collected Date/Time: 04/17/2018 14:45

Matrix: Groundwater

COC Reference: 114657

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

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

Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

**Metals**

Arsenic, Dissolved	0.018	mg/L	0.002	E200.8	04/20/18 10:55	CCM	7440-38-2	
Arsenic	0.017	mg/L	0.002	E200.8	04/20/18 10:55	CCM	7440-38-2	
Barium, Dissolved	0.075	mg/L	0.005	E200.8	04/20/18 10:55	CCM	7440-39-3	
Barium	0.077	mg/L	0.005	E200.8	04/20/18 10:55	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 10:55	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 10:55	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 10:55	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 10:55	CCM	7782-49-2	
Zinc, Dissolved	0.005	mg/L	0.005	E200.8	04/20/18 10:55	CCM	7440-66-6	
Zinc	0.012	mg/L	0.005	E200.8	04/20/18 10:55	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 18:05	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 18:05	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 18:05	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 18:05	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 18:05	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 18:05	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 18:05	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.05 (continued)

Sample Tag: OBG-MW-6D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 18:05	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	108-86-1	
1,3,5-Trimethylbenzene	3	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	98-06-6	
1,2,4-Trimethylbenzene	8	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	95-50-1	
1,2,3-Trimethylbenzene	7	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:05	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:05	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.06

Sample Tag: OBG-MW-2S

Collected Date/Time: 04/17/2018 15:45

Matrix: Groundwater

COC Reference: 114657

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

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

Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

**Metals**

Arsenic, Dissolved	0.011	mg/L	0.002	E200.8	04/20/18 11:03	CCM	7440-38-2	
Arsenic	0.013	mg/L	0.002	E200.8	04/20/18 11:02	CCM	7440-38-2	
Barium, Dissolved	0.161	mg/L	0.005	E200.8	04/20/18 11:03	CCM	7440-39-3	
Barium	0.160	mg/L	0.005	E200.8	04/20/18 11:02	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 11:03	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 11:02	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:03	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:02	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:03	CCM	7440-66-6	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 11:02	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 18:25	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 18:25	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 18:25	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 18:25	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 18:25	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 18:25	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 18:25	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.06 (continued)

Sample Tag: OBG-MW-2S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 18:25	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:25	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:25	JML	91-57-6	



# Analytical Laboratory Report

**Lab Sample ID: S89087.07**

Sample Tag: OBG-MW-2S Collocated  
 Collected Date/Time: 04/17/2018 15:45  
 Matrix: Groundwater  
 COC Reference: 114657

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

<b>Metals</b>								
Arsenic, Dissolved	0.010	mg/L	0.002	E200.8	04/20/18 11:05	CCM	7440-38-2	
Arsenic	0.014	mg/L	0.002	E200.8	04/20/18 11:04	CCM	7440-38-2	
Barium, Dissolved	0.159	mg/L	0.005	E200.8	04/20/18 11:05	CCM	7440-39-3	
Barium	0.161	mg/L	0.005	E200.8	04/20/18 11:04	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 11:05	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 11:04	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:05	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:04	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:05	CCM	7440-66-6	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 11:04	CCM	7440-66-6	

<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 18:46	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 18:46	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 18:46	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 18:46	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 18:46	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 18:46	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 18:46	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.07 (continued)

Sample Tag: OBG-MW-2S Collocated

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 18:46	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 18:46	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 18:46	JML	91-57-6	



# Analytical Laboratory Report

**Lab Sample ID: S89087.08**

Sample Tag: OBG-MW-2D

Collected Date/Time: 04/17/2018 16:45

Matrix: Groundwater

COC Reference: 114657

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		
<b>Metals</b>								
Arsenic, Dissolved	0.022	mg/L	0.002	E200.8	04/20/18 11:07	CCM	7440-38-2	
Arsenic	0.023	mg/L	0.002	E200.8	04/20/18 11:06	CCM	7440-38-2	
Barium, Dissolved	0.242	mg/L	0.005	E200.8	04/20/18 11:07	CCM	7440-39-3	
Barium	0.245	mg/L	0.005	E200.8	04/20/18 11:06	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 11:07	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 11:06	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:07	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:06	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:07	CCM	7440-66-6	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 11:06	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 19:06	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 19:06	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 19:06	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 19:06	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 19:06	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 19:06	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 19:06	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.08 (continued)

Sample Tag: OBG-MW-2D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 19:06	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:06	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:06	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.09

Sample Tag: OBG-OS-MW-3

Collected Date/Time: 04/18/2018 09:25

Matrix: Groundwater

COC Reference: 114657

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		
<b>Metals</b>								
Arsenic, Dissolved	0.020	mg/L	0.002	E200.8	04/20/18 11:09	CCM	7440-38-2	
Arsenic	0.021	mg/L	0.002	E200.8	04/20/18 11:08	CCM	7440-38-2	
Barium, Dissolved	0.160	mg/L	0.005	E200.8	04/20/18 11:09	CCM	7440-39-3	
Barium	0.160	mg/L	0.005	E200.8	04/20/18 11:08	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 11:09	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 11:08	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:09	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:08	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:09	CCM	7440-66-6	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 11:08	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 19:27	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 19:27	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 19:27	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 19:27	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 19:27	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 19:27	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 19:27	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.09 (continued)

Sample Tag: OBG-OS-MW-3

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 19:27	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:27	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:27	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.10

Sample Tag: OBG-OS-MW-4

Collected Date/Time: 04/18/2018 10:15

Matrix: Groundwater

COC Reference: 114657

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

**Metals**

Arsenic, Dissolved	0.002	mg/L	0.002	E200.8	04/20/18 11:11	CCM	7440-38-2	
Arsenic	0.002	mg/L	0.002	E200.8	04/20/18 11:10	CCM	7440-38-2	
Barium, Dissolved	1.28	mg/L	0.005	E200.8	04/20/18 11:11	CCM	7440-39-3	
Barium	1.29	mg/L	0.005	E200.8	04/20/18 11:10	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 11:11	CCM	7439-92-1	
Lead	0.003	mg/L	0.003	E200.8	04/20/18 11:10	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:11	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:10	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:11	CCM	7440-66-6	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 11:10	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 19:47	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 19:47	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 19:47	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 19:47	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 19:47	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 19:47	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 19:47	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.10 (continued)

Sample Tag: OBG-OS-MW-4

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	106-93-4	
Chlorobenzene	8	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	630-20-6	
Ethylbenzene	1	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	100-41-4	
p,m-Xylene*	2	ug/L	2	SW5030C/8260C	04/19/18 19:47	JML		
o-Xylene	1	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	100-42-5	
Isopropylbenzene	6	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	96-18-4	
n-Propylbenzene	9	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	98-06-6	
1,2,4-Trimethylbenzene	4	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	95-63-6	
sec-Butylbenzene	2	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	541-73-1	
1,4-Dichlorobenzene	5	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	95-50-1	
1,2,3-Trimethylbenzene	4	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	526-73-8	
n-Butylbenzene	1	ug/L	1	SW5030C/8260C	04/19/18 19:47	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	87-61-6	
Naphthalene	53	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	91-20-3	
2-Methylnaphthalene	48	ug/L	5	SW5030C/8260C	04/19/18 19:47	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.11

Sample Tag: OBG-OS-MW-5

Collected Date/Time: 04/18/2018 12:05

Matrix: Groundwater

COC Reference: 114657

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

<b>Metals</b>								
Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	04/20/18 11:32	CCM	7440-38-2	
Arsenic	Not detected	mg/L	0.002	E200.8	04/20/18 11:31	CCM	7440-38-2	
Barium, Dissolved	2.26	mg/L	0.005	E200.8	04/20/18 11:32	CCM	7440-39-3	
Barium	2.40	mg/L	0.005	E200.8	04/20/18 11:31	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 11:32	CCM	7439-92-1	
Lead	0.005	mg/L	0.003	E200.8	04/20/18 11:31	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:32	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:31	CCM	7782-49-2	
Zinc, Dissolved	0.005	mg/L	0.005	E200.8	04/20/18 11:32	CCM	7440-66-6	
Zinc	0.007	mg/L	0.005	E200.8	04/20/18 11:31	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 20:07	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 20:07	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 20:07	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 20:07	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 20:07	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 20:07	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 20:07	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.11 (continued)

Sample Tag: OBG-OS-MW-5

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	106-93-4	
Chlorobenzene	7	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 20:07	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	541-73-1	
1,4-Dichlorobenzene	3	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:07	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:07	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.12

Sample Tag: OBG-OS-MW-1

Collected Date/Time: 04/18/2018 13:25

Matrix: Groundwater

COC Reference: 114657

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		
<b>Metals</b>								
Arsenic, Dissolved	0.037	mg/L	0.002	E200.8	04/20/18 11:33	CCM	7440-38-2	
Arsenic	0.037	mg/L	0.002	E200.8	04/20/18 11:38	CCM	7440-38-2	
Barium, Dissolved	0.927	mg/L	0.005	E200.8	04/20/18 11:33	CCM	7440-39-3	
Barium	0.926	mg/L	0.005	E200.8	04/20/18 11:38	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 11:33	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 11:38	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:33	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:38	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:33	CCM	7440-66-6	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 11:38	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 20:28	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 20:28	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 20:28	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 20:28	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 20:28	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 20:28	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 20:28	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.12 (continued)

Sample Tag: OBG-OS-MW-1

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 20:28	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:28	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:28	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.13

Sample Tag: OBG-OS-MW-2

Collected Date/Time: 04/18/2018 14:20

Matrix: Groundwater

COC Reference: 114658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		
<b>Metals</b>								
Arsenic, Dissolved	0.042	mg/L	0.002	E200.8	04/20/18 11:35	CCM	7440-38-2	
Arsenic	0.049	mg/L	0.002	E200.8	04/20/18 11:34	CCM	7440-38-2	
Barium, Dissolved	0.239	mg/L	0.005	E200.8	04/20/18 11:35	CCM	7440-39-3	
Barium	0.242	mg/L	0.005	E200.8	04/20/18 11:34	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 11:35	CCM	7439-92-1	
Lead	0.005	mg/L	0.003	E200.8	04/20/18 11:34	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:35	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:34	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:35	CCM	7440-66-6	
Zinc	0.014	mg/L	0.005	E200.8	04/20/18 11:34	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 20:48	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 20:48	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 20:48	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 20:48	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 20:48	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 20:48	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 20:48	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.13 (continued)

Sample Tag: OBG-OS-MW-2

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 20:48	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 20:48	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 20:48	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.14

Sample Tag: OBG-MW-5S

Collected Date/Time: 04/18/2018 15:45

Matrix: Groundwater

COC Reference: 114658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

**Metals**

Arsenic, Dissolved	0.004	mg/L	0.002	E200.8	04/20/18 11:47	CCM	7440-38-2	
Arsenic	0.004	mg/L	0.002	E200.8	04/20/18 11:46	CCM	7440-38-2	
Barium, Dissolved	1.18	mg/L	0.005	E200.8	04/20/18 11:47	CCM	7440-39-3	
Barium	1.19	mg/L	0.005	E200.8	04/20/18 11:46	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 11:47	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 11:46	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:47	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:46	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:47	CCM	7440-66-6	
Zinc	0.013	mg/L	0.005	E200.8	04/20/18 11:46	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 21:09	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 21:09	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 21:09	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 21:09	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 21:09	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 21:09	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 21:09	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.14 (continued)

Sample Tag: OBG-MW-5S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 21:09	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	541-73-1	
1,4-Dichlorobenzene	1	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:09	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:09	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.15

Sample Tag: OBG-MW-3S

Collected Date/Time: 04/18/2018 16:45

Matrix: Groundwater

COC Reference: 114658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

<b>Metals</b>								
Arsenic, Dissolved	0.005	mg/L	0.002	E200.8	04/20/18 11:50	CCM	7440-38-2	
Arsenic	0.008	mg/L	0.002	E200.8	04/20/18 11:36	CCM	7440-38-2	
Barium, Dissolved	0.119	mg/L	0.005	E200.8	04/20/18 11:50	CCM	7440-39-3	
Barium	0.124	mg/L	0.005	E200.8	04/20/18 11:36	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 11:50	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 11:36	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:50	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:36	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:50	CCM	7440-66-6	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 11:36	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 16:22	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 16:22	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 16:22	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 16:22	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 16:22	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 16:22	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 16:22	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.15 (continued)

Sample Tag: OBG-MW-3S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 16:22	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 16:22	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 16:22	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.16

Sample Tag: OBG-MW-3S MS

Collected Date/Time: 04/18/2018 16:45

Matrix: Groundwater

COC Reference: 114658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
4	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

<b>Metals</b>								
Arsenic, Dissolved	0.266	mg/L	0.002	E200.8	04/20/18 11:51	CCM	7440-38-2	
Arsenic	0.259	mg/L	0.002	E200.8	04/20/18 11:40	CCM	7440-38-2	
Barium, Dissolved	0.375	mg/L	0.005	E200.8	04/20/18 11:51	CCM	7440-39-3	
Barium	0.369	mg/L	0.005	E200.8	04/20/18 11:40	CCM	7440-39-3	
Lead, Dissolved	0.239	mg/L	0.003	E200.8	04/20/18 11:51	CCM	7439-92-1	
Lead	0.235	mg/L	0.003	E200.8	04/20/18 11:40	CCM	7439-92-1	
Selenium, Dissolved	0.254	mg/L	0.005	E200.8	04/20/18 11:51	CCM	7782-49-2	
Selenium	0.248	mg/L	0.005	E200.8	04/20/18 11:40	CCM	7782-49-2	
Zinc, Dissolved	0.250	mg/L	0.005	E200.8	04/20/18 11:51	CCM	7440-66-6	
Zinc	0.237	mg/L	0.005	E200.8	04/20/18 11:40	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	53	ug/L	10	SW5030C/8260C	04/19/18 13:14	JML	60-29-7	1
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 13:14	JML	67-64-1	1
Methyl iodide	50	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	74-88-4	1
Carbon disulfide	55	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	75-15-0	1
tert-Methyl butyl ether (MTBE)	52	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	1634-04-4	1
Acrylonitrile	52	ug/L	2	SW5030C/8260C	04/19/18 13:14	JML	107-13-1	1
2-Butanone (MEK)	51	ug/L	25	SW5030C/8260C	04/19/18 13:14	JML	78-93-3	1
Dichlorodifluoromethane	47	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	75-71-8	1
Chloromethane	50	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	74-87-3	1
Vinyl chloride	46	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	75-01-4	1
Bromomethane	44	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	74-83-9	1
Chloroethane	46	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	75-00-3	1
Trichlorofluoromethane	45	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	75-69-4	1
1,1-Dichloroethene	50	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	75-35-4	1
Methylene chloride	51	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	75-09-2	1
trans-1,2-Dichloroethene	51	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	156-60-5	1
1,1-Dichloroethane	52	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	75-34-3	1
cis-1,2-Dichloroethene	50	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	156-59-2	1
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 13:14	JML	109-99-9	1
Chloroform	49	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	67-66-3	1
Bromochloromethane	48	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	74-97-5	1
1,1,1-Trichloroethane	50	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	71-55-6	1
4-Methyl-2-pentanone (MIBK)	52	ug/L	50	SW5030C/8260C	04/19/18 13:14	JML	108-10-1	1

1-spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S89087.16 (continued)

Sample Tag: OBG-MW-3S MS

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 13:14	JML	591-78-6	1
Carbon tetrachloride	48	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	56-23-5	1
Benzene	49	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	71-43-2	1
1,2-Dichloroethane	47	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	107-06-2	1
Trichloroethene	48	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	79-01-6	1
1,2-Dichloropropane	49	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	78-87-5	1
Bromodichloromethane	46	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	75-27-4	1
Dibromomethane	46	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	74-95-3	1
cis-1,3-Dichloropropene	51	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	10061-01-5	1
Toluene	47	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	108-88-3	1
trans-1,3-Dichloropropene	50	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	10061-02-6	1
1,1,2-Trichloroethane	48	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	79-00-5	1
Tetrachloroethene	45	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	127-18-4	1
trans-1,4-Dichloro-2-butene	30	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	110-57-6	1
Dibromochloromethane	46	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	124-48-1	1
1,2-Dibromoethane	45	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	106-93-4	1
Chlorobenzene	46	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	108-90-7	1
1,1,1,2-Tetrachloroethane	46	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	630-20-6	1
Ethylbenzene	46	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	100-41-4	1
p,m-Xylene*	88	ug/L	2	SW5030C/8260C	04/19/18 13:14	JML		1
o-Xylene	45	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	95-47-6	1
Styrene	43	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	100-42-5	1
Isopropylbenzene	46	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	98-82-8	1
Bromoform	44	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	75-25-2	1
1,1,1,2-Tetrachloroethane	47	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	79-34-5	1
1,2,3-Trichloropropane	46	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	96-18-4	1
n-Propylbenzene	46	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	103-65-1	1
Bromobenzene	44	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	108-86-1	1
1,3,5-Trimethylbenzene	45	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	108-67-8	1
tert-Butylbenzene	45	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	98-06-6	1
1,2,4-Trimethylbenzene	44	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	95-63-6	1
sec-Butylbenzene	48	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	135-98-8	1
p-Isopropyltoluene	47	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	99-87-6	1
1,3-Dichlorobenzene	46	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	541-73-1	1
1,4-Dichlorobenzene	47	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	106-46-7	1
1,2-Dichlorobenzene	48	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	95-50-1	1
1,2,3-Trimethylbenzene	50	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	526-73-8	1
n-Butylbenzene	47	ug/L	1	SW5030C/8260C	04/19/18 13:14	JML	104-51-8	1
Hexachloroethane	49	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	67-72-1	1
1,2-Dibromo-3-chloropropane	50	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	96-12-8	1
1,2,4-Trichlorobenzene	47	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	120-82-1	1
1,2,3-Trichlorobenzene	48	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	87-61-6	1
Naphthalene	51	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	91-20-3	1
2-Methylnaphthalene	58	ug/L	5	SW5030C/8260C	04/19/18 13:14	JML	91-57-6	1

1-spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S89087.17

Sample Tag: OBG-MW-3S MSD

Collected Date/Time: 04/18/2018 16:45

Matrix: Groundwater

COC Reference: 114658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
4	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

**Metals**

Arsenic, Dissolved	0.262	mg/L	0.002	E200.8	04/20/18 11:52	CCM	7440-38-2	
Arsenic	0.257	mg/L	0.002	E200.8	04/20/18 11:40	CCM	7440-38-2	
Barium, Dissolved	0.372	mg/L	0.005	E200.8	04/20/18 11:52	CCM	7440-39-3	
Barium	0.363	mg/L	0.005	E200.8	04/20/18 11:40	CCM	7440-39-3	
Lead, Dissolved	0.241	mg/L	0.003	E200.8	04/20/18 11:52	CCM	7439-92-1	
Lead	0.242	mg/L	0.003	E200.8	04/20/18 11:40	CCM	7439-92-1	
Selenium, Dissolved	0.253	mg/L	0.005	E200.8	04/20/18 11:52	CCM	7782-49-2	
Selenium	0.237	mg/L	0.005	E200.8	04/20/18 11:40	CCM	7782-49-2	
Zinc, Dissolved	0.241	mg/L	0.005	E200.8	04/20/18 11:52	CCM	7440-66-6	
Zinc	0.233	mg/L	0.005	E200.8	04/20/18 11:40	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	54	ug/L	10	SW5030C/8260C	04/19/18 13:35	JML	60-29-7	1
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 13:35	JML	67-64-1	1
Methyl iodide	49	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	74-88-4	1
Carbon disulfide	54	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	75-15-0	1
tert-Methyl butyl ether (MTBE)	52	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	1634-04-4	1
Acrylonitrile	53	ug/L	2	SW5030C/8260C	04/19/18 13:35	JML	107-13-1	1
2-Butanone (MEK)	52	ug/L	25	SW5030C/8260C	04/19/18 13:35	JML	78-93-3	1
Dichlorodifluoromethane	47	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	75-71-8	1
Chloromethane	49	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	74-87-3	1
Vinyl chloride	45	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	75-01-4	1
Bromomethane	43	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	74-83-9	1
Chloroethane	45	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	75-00-3	1
Trichlorofluoromethane	44	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	75-69-4	1
1,1-Dichloroethene	50	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	75-35-4	1
Methylene chloride	51	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	75-09-2	1
trans-1,2-Dichloroethene	51	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	156-60-5	1
1,1-Dichloroethane	51	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	75-34-3	1
cis-1,2-Dichloroethene	50	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	156-59-2	1
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 13:35	JML	109-99-9	1
Chloroform	48	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	67-66-3	1
Bromochloromethane	48	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	74-97-5	1
1,1,1-Trichloroethane	50	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	71-55-6	1
4-Methyl-2-pentanone (MIBK)	54	ug/L	50	SW5030C/8260C	04/19/18 13:35	JML	108-10-1	1

1-spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S89087.17 (continued)

Sample Tag: OBG-MW-3S MSD

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
2-Hexanone	53	ug/L	50	SW5030C/8260C	04/19/18 13:35	JML	591-78-6	1
Carbon tetrachloride	48	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	56-23-5	1
Benzene	49	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	71-43-2	1
1,2-Dichloroethane	48	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	107-06-2	1
Trichloroethene	49	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	79-01-6	1
1,2-Dichloropropane	50	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	78-87-5	1
Bromodichloromethane	47	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	75-27-4	1
Dibromomethane	47	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	74-95-3	1
cis-1,3-Dichloropropene	52	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	10061-01-5	1
Toluene	48	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	108-88-3	1
trans-1,3-Dichloropropene	51	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	10061-02-6	1
1,1,2-Trichloroethane	50	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	79-00-5	1
Tetrachloroethene	46	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	127-18-4	1
trans-1,4-Dichloro-2-butene	29	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	110-57-6	1
Dibromochloromethane	48	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	124-48-1	1
1,2-Dibromoethane	47	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	106-93-4	1
Chlorobenzene	48	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	108-90-7	1
1,1,1,2-Tetrachloroethane	47	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	630-20-6	1
Ethylbenzene	47	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	100-41-4	1
p,m-Xylene*	91	ug/L	2	SW5030C/8260C	04/19/18 13:35	JML		1
o-Xylene	47	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	95-47-6	1
Styrene	44	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	100-42-5	1
Isopropylbenzene	47	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	98-82-8	1
Bromoform	46	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	75-25-2	1
1,1,1,2-Tetrachloroethane	50	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	79-34-5	1
1,2,3-Trichloropropane	47	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	96-18-4	1
n-Propylbenzene	47	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	103-65-1	1
Bromobenzene	45	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	108-86-1	1
1,3,5-Trimethylbenzene	46	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	108-67-8	1
tert-Butylbenzene	46	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	98-06-6	1
1,2,4-Trimethylbenzene	45	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	95-63-6	1
sec-Butylbenzene	48	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	135-98-8	1
p-Isopropyltoluene	47	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	99-87-6	1
1,3-Dichlorobenzene	47	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	541-73-1	1
1,4-Dichlorobenzene	47	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	106-46-7	1
1,2-Dichlorobenzene	48	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	95-50-1	1
1,2,3-Trimethylbenzene	51	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	526-73-8	1
n-Butylbenzene	47	ug/L	1	SW5030C/8260C	04/19/18 13:35	JML	104-51-8	1
Hexachloroethane	50	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	67-72-1	1
1,2-Dibromo-3-chloropropane	52	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	96-12-8	1
1,2,4-Trichlorobenzene	48	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	120-82-1	1
1,2,3-Trichlorobenzene	49	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	87-61-6	1
Naphthalene	53	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	91-20-3	1
2-Methylnaphthalene	61	ug/L	5	SW5030C/8260C	04/19/18 13:35	JML	91-57-6	1

1-spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S89087.18

Sample Tag: DUP-1

Collected Date/Time: 04/18/2018 00:01

Matrix: Groundwater

COC Reference: 114658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

**Metals**

Arsenic, Dissolved	0.003	mg/L	0.002	E200.8	04/20/18 11:49	CCM	7440-38-2	
Arsenic	0.003	mg/L	0.002	E200.8	04/20/18 11:48	CCM	7440-38-2	
Barium, Dissolved	1.18	mg/L	0.005	E200.8	04/20/18 11:49	CCM	7440-39-3	
Barium	1.20	mg/L	0.005	E200.8	04/20/18 11:48	CCM	7440-39-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/20/18 11:49	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 11:48	CCM	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:49	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:48	CCM	7782-49-2	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	04/20/18 11:49	CCM	7440-66-6	
Zinc	0.010	mg/L	0.005	E200.8	04/20/18 11:48	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 21:29	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 21:29	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 21:29	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 21:29	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 21:29	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 21:29	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 21:29	JML	591-78-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.18 (continued)

Sample Tag: DUP-1

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 21:29	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	541-73-1	
1,4-Dichlorobenzene	1	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 21:29	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 21:29	JML	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S89087.19

Sample Tag: Field Blank-1

Collected Date/Time: 04/18/2018 17:15

Matrix: Liquid

COC Reference: 114658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

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

Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

**Metals**

Arsenic	Not detected	mg/L	0.002	E200.8	04/20/18 11:29	CCM	7440-38-2	
Barium	Not detected	mg/L	0.005	E200.8	04/20/18 11:29	CCM	7440-39-3	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 11:29	CCM	7439-92-1	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:29	CCM	7782-49-2	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 11:29	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 14:58	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 14:58	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 14:58	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 14:58	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 14:58	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 14:58	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 14:58	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	75-27-4	



# Analytical Laboratory Report

Lab Sample ID: S89087.19 (continued)

Sample Tag: Field Blank-1

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 14:58	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 14:58	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 14:58	JML	91-57-6	



# Analytical Laboratory Report

**Lab Sample ID: S89087.20**

Sample Tag: Equipment Blank-1

Collected Date/Time: 04/18/2018 17:20

Matrix: Liquid

COC Reference: 114658

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	3.9	IR
3	40ml Glass	HCL	Yes	3.9	IR

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

Metal Digestion	Completed			SW3015A	04/20/18 09:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	04/20/18 11:30	KCV		

**Metals**

Arsenic	Not detected	mg/L	0.002	E200.8	04/20/18 11:25	CCM	7440-38-2	
Barium	Not detected	mg/L	0.005	E200.8	04/20/18 11:25	CCM	7440-39-3	
Lead	Not detected	mg/L	0.003	E200.8	04/20/18 11:25	CCM	7439-92-1	
Selenium	Not detected	mg/L	0.005	E200.8	04/20/18 11:25	CCM	7782-49-2	
Zinc	Not detected	mg/L	0.005	E200.8	04/20/18 11:25	CCM	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List**

Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	04/19/18 15:19	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 15:19	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	04/19/18 15:19	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	04/19/18 15:19	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	04/19/18 15:19	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	04/19/18 15:19	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	04/19/18 15:19	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	75-27-4	



# Analytical Laboratory Report

Lab Sample ID: S89087.20 (continued)

Sample Tag: Equipment Blank-1

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	04/19/18 15:19	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	04/19/18 15:19	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	04/19/18 15:19	JML	91-57-6	



# Analytical Laboratory Report

**Lab Sample ID: S89087.21**

Sample Tag: Trip Blank-1

Collected Date/Time: 04/18/2018 00:01

Matrix: Liquid

COC Reference: 114658

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	n/a	n/a	Yes	n/a	n/a

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
<b>Other / Misc.</b>								
No Analyses*	Completed				04/20/18 12:00	MMC		







# Quality Control Report

Report ID: QC-S89087-01  
Generated on 04/30/2018

Report to  
Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
2260 E Saginaw St  
East Lansing, MI 48823  
  
Phone: 414-837-3607 FAX:

Report Produced by  
Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823  
  
Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary  
Lab Sample ID(s): S89087.01-S89087.20  
Project: RACER Hemphill Rd SA Sampling  
Submitted Date/Time: 04/19/2018 10:29  
Sampled by: Kevin Schneider  
P.O. #: 11700374

QC Report Sections  
Cover Page (Page 1)  
Analysis Summary (Pages 2-21)  
Prep Batch Summary (Pages 22-26)  
Surrogates per Lab Sample (Pages 27-44)  
Surrogates per QC Sample (Page 45)  
Batch QC Results (Pages 46-58)

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

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

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S89087.01**

Sample Tag: OBG-MW-7S

Collected Date/Time: 04/17/2018 10:40

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 10:48	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 10:44	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 10:48	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 10:44	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 10:48	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 10:44	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 10:48	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 10:44	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 10:48	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 10:44	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 16:43	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.02**

Sample Tag: OBG-MW-7D

Collected Date/Time: 04/17/2018 11:30

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 10:50	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 10:49	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 10:50	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 10:49	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 10:50	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 10:49	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 10:50	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 10:49	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 10:50	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 10:49	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 17:03	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.03**

Sample Tag: OBG-MW-1S

Collected Date/Time: 04/17/2018 12:35

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 10:52	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 10:51	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 10:52	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 10:51	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 10:52	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 10:51	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 10:52	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 10:51	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 10:52	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 10:51	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD

**Organics - Volatiles**

Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 17:24	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS
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## QC Report - Analysis Summary

**Lab Sample ID: S89087.04**

Sample Tag: OBG-MW-6S

Collected Date/Time: 04/17/2018 13:30

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 10:54	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 10:53	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 10:54	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 10:53	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 10:54	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 10:53	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 10:54	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 10:53	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 10:54	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 10:53	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 17:44	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.05**

Sample Tag: OBG-MW-6D

Collected Date/Time: 04/17/2018 14:45

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 10:55	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 10:55	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 10:55	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 10:55	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 10:55	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 10:55	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 10:55	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 10:55	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 10:55	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 10:55	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 18:05	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.06**

Sample Tag: OBG-MW-2S

Collected Date/Time: 04/17/2018 15:45

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:03	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:02	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:03	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:02	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:03	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:02	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:03	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:02	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:03	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:02	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 18:25	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.07**

Sample Tag: OBG-MW-2S Collocated

Collected Date/Time: 04/17/2018 15:45

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:05	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:04	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:05	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:04	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:05	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:04	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:05	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:04	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:05	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:04	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 18:46	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.08**

Sample Tag: OBG-MW-2D

Collected Date/Time: 04/17/2018 16:45

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:07	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:06	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:07	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:06	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:07	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:06	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:07	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:06	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:07	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:06	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD

**Organics - Volatiles**

Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 19:06	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS
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## QC Report - Analysis Summary

**Lab Sample ID: S89087.09**

Sample Tag: OBG-OS-MW-3

Collected Date/Time: 04/18/2018 09:25

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:09	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:08	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:09	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:08	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:09	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:08	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:09	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:08	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:09	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:08	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 19:27	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.10**

Sample Tag: OBG-OS-MW-4

Collected Date/Time: 04/18/2018 10:15

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:11	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:10	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:11	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:10	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:11	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:10	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:11	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:10	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:11	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:10	MT4-18-0420A	MTD-042018-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 19:47	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.11**

Sample Tag: OBG-OS-MW-5

Collected Date/Time: 04/18/2018 12:05

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:32	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:31	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:32	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:31	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:32	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:31	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:32	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:31	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:32	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:31	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 20:07	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.12**

Sample Tag: OBG-OS-MW-1

Collected Date/Time: 04/18/2018 13:25

Matrix: Groundwater

COC Reference: 114657

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:33	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:38	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:33	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:38	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:33	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:38	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:33	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:38	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:33	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:38	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD

**Organics - Volatiles**

Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 20:28	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS
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## QC Report - Analysis Summary

**Lab Sample ID: S89087.13**

Sample Tag: OBG-OS-MW-2

Collected Date/Time: 04/18/2018 14:20

Matrix: Groundwater

COC Reference: 114658

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:35	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:34	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:35	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:34	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:35	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:34	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:35	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:34	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:35	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:34	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD

**Organics - Volatiles**

Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 20:48	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS
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## QC Report - Analysis Summary

**Lab Sample ID: S89087.14**

Sample Tag: OBG-MW-5S

Collected Date/Time: 04/18/2018 15:45

Matrix: Groundwater

COC Reference: 114658

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:47	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:46	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:47	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:46	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:47	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:46	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:47	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:46	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:47	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:46	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 21:09	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.15**

Sample Tag: OBG-MW-3S

Collected Date/Time: 04/18/2018 16:45

Matrix: Groundwater

COC Reference: 114658

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:50	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:36	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:50	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:36	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:50	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:36	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:50	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:36	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:50	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:36	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD

**Organics - Volatiles**

Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 16:22	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS
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## QC Report - Analysis Summary

**Lab Sample ID: S89087.16**

Sample Tag: OBG-MW-3S MS

Collected Date/Time: 04/18/2018 16:45

Matrix: Groundwater

COC Reference: 114658

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:51	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:40	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:51	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:40	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:51	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:40	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:51	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:40	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:51	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:40	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 13:14	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.17**

Sample Tag: OBG-MW-3S MSD

Collected Date/Time: 04/18/2018 16:45

Matrix: Groundwater

COC Reference: 114658

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:52	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:40	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:52	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:40	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:52	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:40	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:52	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:40	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:52	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:40	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 13:35	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.18**

Sample Tag: DUP-1

Collected Date/Time: 04/18/2018 00:01

Matrix: Groundwater

COC Reference: 114658

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	04/20/18 11:49	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	04/20/18 11:48	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	04/20/18 11:49	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:48	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	04/20/18 11:49	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:48	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	04/20/18 11:49	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:48	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	04/20/18 11:49	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:48	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 21:29	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.19**

Sample Tag: Field Blank-1

Collected Date/Time: 04/18/2018 17:15

Matrix: Liquid

COC Reference: 114658

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic	E200.8	04/20/18 11:29	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:29	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:29	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:29	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:29	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 14:58	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S89087.20**

Sample Tag: Equipment Blank-1

Collected Date/Time: 04/18/2018 17:20

Matrix: Liquid

COC Reference: 114658

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic	E200.8	04/20/18 11:25	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Barium	E200.8	04/20/18 11:25	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Lead	E200.8	04/20/18 11:25	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	04/20/18 11:25	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	04/20/18 11:25	MT4-18-0420A	MTD-042018-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 15:19	180419A3	VF180419W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Prep Batch Summary

### Metals, Prep Batch ID: MTD-042018-1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S89087.01	Arsenic, Dissolved	E200.8	04/20/18 10:48	MT4-18-0420A
S89087.01	Arsenic	E200.8	04/20/18 10:44	MT4-18-0420A
S89087.01	Barium, Dissolved	E200.8	04/20/18 10:48	MT4-18-0420A
S89087.01	Barium	E200.8	04/20/18 10:44	MT4-18-0420A
S89087.01	Lead, Dissolved	E200.8	04/20/18 10:48	MT4-18-0420A
S89087.01	Lead	E200.8	04/20/18 10:44	MT4-18-0420A
S89087.01	Selenium, Dissolved	E200.8	04/20/18 10:48	MT4-18-0420A
S89087.01	Selenium	E200.8	04/20/18 10:44	MT4-18-0420A
S89087.01	Zinc, Dissolved	E200.8	04/20/18 10:48	MT4-18-0420A
S89087.01	Zinc	E200.8	04/20/18 10:44	MT4-18-0420A
S89087.02	Arsenic, Dissolved	E200.8	04/20/18 10:50	MT4-18-0420A
S89087.02	Arsenic	E200.8	04/20/18 10:49	MT4-18-0420A
S89087.02	Barium, Dissolved	E200.8	04/20/18 10:50	MT4-18-0420A
S89087.02	Barium	E200.8	04/20/18 10:49	MT4-18-0420A
S89087.02	Lead, Dissolved	E200.8	04/20/18 10:50	MT4-18-0420A
S89087.02	Lead	E200.8	04/20/18 10:49	MT4-18-0420A
S89087.02	Selenium, Dissolved	E200.8	04/20/18 10:50	MT4-18-0420A
S89087.02	Selenium	E200.8	04/20/18 10:49	MT4-18-0420A
S89087.02	Zinc, Dissolved	E200.8	04/20/18 10:50	MT4-18-0420A
S89087.02	Zinc	E200.8	04/20/18 10:49	MT4-18-0420A
S89087.03	Arsenic, Dissolved	E200.8	04/20/18 10:52	MT4-18-0420A
S89087.03	Arsenic	E200.8	04/20/18 10:51	MT4-18-0420A
S89087.03	Barium, Dissolved	E200.8	04/20/18 10:52	MT4-18-0420A
S89087.03	Barium	E200.8	04/20/18 10:51	MT4-18-0420A
S89087.03	Lead, Dissolved	E200.8	04/20/18 10:52	MT4-18-0420A
S89087.03	Lead	E200.8	04/20/18 10:51	MT4-18-0420A
S89087.03	Selenium, Dissolved	E200.8	04/20/18 10:52	MT4-18-0420A
S89087.03	Selenium	E200.8	04/20/18 10:51	MT4-18-0420A
S89087.03	Zinc, Dissolved	E200.8	04/20/18 10:52	MT4-18-0420A
S89087.03	Zinc	E200.8	04/20/18 10:51	MT4-18-0420A
S89087.04	Arsenic, Dissolved	E200.8	04/20/18 10:54	MT4-18-0420A
S89087.04	Arsenic	E200.8	04/20/18 10:53	MT4-18-0420A
S89087.04	Barium, Dissolved	E200.8	04/20/18 10:54	MT4-18-0420A
S89087.04	Barium	E200.8	04/20/18 10:53	MT4-18-0420A
S89087.04	Lead, Dissolved	E200.8	04/20/18 10:54	MT4-18-0420A
S89087.04	Lead	E200.8	04/20/18 10:53	MT4-18-0420A
S89087.04	Selenium, Dissolved	E200.8	04/20/18 10:54	MT4-18-0420A
S89087.04	Selenium	E200.8	04/20/18 10:53	MT4-18-0420A
S89087.04	Zinc, Dissolved	E200.8	04/20/18 10:54	MT4-18-0420A
S89087.04	Zinc	E200.8	04/20/18 10:53	MT4-18-0420A
S89087.05	Arsenic, Dissolved	E200.8	04/20/18 10:55	MT4-18-0420A
S89087.05	Arsenic	E200.8	04/20/18 10:55	MT4-18-0420A
S89087.05	Barium, Dissolved	E200.8	04/20/18 10:55	MT4-18-0420A
S89087.05	Barium	E200.8	04/20/18 10:55	MT4-18-0420A
S89087.05	Lead, Dissolved	E200.8	04/20/18 10:55	MT4-18-0420A
S89087.05	Lead	E200.8	04/20/18 10:55	MT4-18-0420A
S89087.05	Selenium, Dissolved	E200.8	04/20/18 10:55	MT4-18-0420A
S89087.05	Selenium	E200.8	04/20/18 10:55	MT4-18-0420A
S89087.05	Zinc, Dissolved	E200.8	04/20/18 10:55	MT4-18-0420A
S89087.05	Zinc	E200.8	04/20/18 10:55	MT4-18-0420A

**QC Report - Prep Batch Summary**

**Metals, Prep Batch ID: MTD-042018-1 (continued)**

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S89087.06	Arsenic, Dissolved	E200.8	04/20/18 11:03	MT4-18-0420A
S89087.06	Arsenic	E200.8	04/20/18 11:02	MT4-18-0420A
S89087.06	Barium, Dissolved	E200.8	04/20/18 11:03	MT4-18-0420A
S89087.06	Barium	E200.8	04/20/18 11:02	MT4-18-0420A
S89087.06	Lead, Dissolved	E200.8	04/20/18 11:03	MT4-18-0420A
S89087.06	Lead	E200.8	04/20/18 11:02	MT4-18-0420A
S89087.06	Selenium, Dissolved	E200.8	04/20/18 11:03	MT4-18-0420A
S89087.06	Selenium	E200.8	04/20/18 11:02	MT4-18-0420A
S89087.06	Zinc, Dissolved	E200.8	04/20/18 11:03	MT4-18-0420A
S89087.06	Zinc	E200.8	04/20/18 11:02	MT4-18-0420A
S89087.07	Arsenic, Dissolved	E200.8	04/20/18 11:05	MT4-18-0420A
S89087.07	Arsenic	E200.8	04/20/18 11:04	MT4-18-0420A
S89087.07	Barium, Dissolved	E200.8	04/20/18 11:05	MT4-18-0420A
S89087.07	Barium	E200.8	04/20/18 11:04	MT4-18-0420A
S89087.07	Lead, Dissolved	E200.8	04/20/18 11:05	MT4-18-0420A
S89087.07	Lead	E200.8	04/20/18 11:04	MT4-18-0420A
S89087.07	Selenium, Dissolved	E200.8	04/20/18 11:05	MT4-18-0420A
S89087.07	Selenium	E200.8	04/20/18 11:04	MT4-18-0420A
S89087.07	Zinc, Dissolved	E200.8	04/20/18 11:05	MT4-18-0420A
S89087.07	Zinc	E200.8	04/20/18 11:04	MT4-18-0420A
S89087.08	Arsenic, Dissolved	E200.8	04/20/18 11:07	MT4-18-0420A
S89087.08	Arsenic	E200.8	04/20/18 11:06	MT4-18-0420A
S89087.08	Barium, Dissolved	E200.8	04/20/18 11:07	MT4-18-0420A
S89087.08	Barium	E200.8	04/20/18 11:06	MT4-18-0420A
S89087.08	Lead, Dissolved	E200.8	04/20/18 11:07	MT4-18-0420A
S89087.08	Lead	E200.8	04/20/18 11:06	MT4-18-0420A
S89087.08	Selenium, Dissolved	E200.8	04/20/18 11:07	MT4-18-0420A
S89087.08	Selenium	E200.8	04/20/18 11:06	MT4-18-0420A
S89087.08	Zinc, Dissolved	E200.8	04/20/18 11:07	MT4-18-0420A
S89087.08	Zinc	E200.8	04/20/18 11:06	MT4-18-0420A
S89087.09	Arsenic, Dissolved	E200.8	04/20/18 11:09	MT4-18-0420A
S89087.09	Arsenic	E200.8	04/20/18 11:08	MT4-18-0420A
S89087.09	Barium, Dissolved	E200.8	04/20/18 11:09	MT4-18-0420A
S89087.09	Barium	E200.8	04/20/18 11:08	MT4-18-0420A
S89087.09	Lead, Dissolved	E200.8	04/20/18 11:09	MT4-18-0420A
S89087.09	Lead	E200.8	04/20/18 11:08	MT4-18-0420A
S89087.09	Selenium, Dissolved	E200.8	04/20/18 11:09	MT4-18-0420A
S89087.09	Selenium	E200.8	04/20/18 11:08	MT4-18-0420A
S89087.09	Zinc, Dissolved	E200.8	04/20/18 11:09	MT4-18-0420A
S89087.09	Zinc	E200.8	04/20/18 11:08	MT4-18-0420A
S89087.10	Arsenic, Dissolved	E200.8	04/20/18 11:11	MT4-18-0420A
S89087.10	Arsenic	E200.8	04/20/18 11:10	MT4-18-0420A
S89087.10	Barium, Dissolved	E200.8	04/20/18 11:11	MT4-18-0420A
S89087.10	Barium	E200.8	04/20/18 11:10	MT4-18-0420A
S89087.10	Lead, Dissolved	E200.8	04/20/18 11:11	MT4-18-0420A
S89087.10	Lead	E200.8	04/20/18 11:10	MT4-18-0420A
S89087.10	Selenium, Dissolved	E200.8	04/20/18 11:11	MT4-18-0420A
S89087.10	Selenium	E200.8	04/20/18 11:10	MT4-18-0420A
S89087.10	Zinc, Dissolved	E200.8	04/20/18 11:11	MT4-18-0420A

## QC Report - Prep Batch Summary

**Metals, Prep Batch ID: MTD-042018-1 (continued)**

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S89087.10	Zinc	E200.8	04/20/18 11:10	MT4-18-0420A

**Metals, Prep Batch ID: MTD-042018-2**

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S89087.11	Arsenic, Dissolved	E200.8	04/20/18 11:32	MT4-18-0420A
S89087.11	Arsenic	E200.8	04/20/18 11:31	MT4-18-0420A
S89087.11	Barium, Dissolved	E200.8	04/20/18 11:32	MT4-18-0420A
S89087.11	Barium	E200.8	04/20/18 11:31	MT4-18-0420A
S89087.11	Lead, Dissolved	E200.8	04/20/18 11:32	MT4-18-0420A
S89087.11	Lead	E200.8	04/20/18 11:31	MT4-18-0420A
S89087.11	Selenium, Dissolved	E200.8	04/20/18 11:32	MT4-18-0420A
S89087.11	Selenium	E200.8	04/20/18 11:31	MT4-18-0420A
S89087.11	Zinc, Dissolved	E200.8	04/20/18 11:32	MT4-18-0420A
S89087.11	Zinc	E200.8	04/20/18 11:31	MT4-18-0420A
S89087.12	Arsenic, Dissolved	E200.8	04/20/18 11:33	MT4-18-0420A
S89087.12	Arsenic	E200.8	04/20/18 11:38	MT4-18-0420A
S89087.12	Barium, Dissolved	E200.8	04/20/18 11:33	MT4-18-0420A
S89087.12	Barium	E200.8	04/20/18 11:38	MT4-18-0420A
S89087.12	Lead, Dissolved	E200.8	04/20/18 11:33	MT4-18-0420A
S89087.12	Lead	E200.8	04/20/18 11:38	MT4-18-0420A
S89087.12	Selenium, Dissolved	E200.8	04/20/18 11:33	MT4-18-0420A
S89087.12	Selenium	E200.8	04/20/18 11:38	MT4-18-0420A
S89087.12	Zinc, Dissolved	E200.8	04/20/18 11:33	MT4-18-0420A
S89087.12	Zinc	E200.8	04/20/18 11:38	MT4-18-0420A
S89087.13	Arsenic, Dissolved	E200.8	04/20/18 11:35	MT4-18-0420A
S89087.13	Arsenic	E200.8	04/20/18 11:34	MT4-18-0420A
S89087.13	Barium, Dissolved	E200.8	04/20/18 11:35	MT4-18-0420A
S89087.13	Barium	E200.8	04/20/18 11:34	MT4-18-0420A
S89087.13	Lead, Dissolved	E200.8	04/20/18 11:35	MT4-18-0420A
S89087.13	Lead	E200.8	04/20/18 11:34	MT4-18-0420A
S89087.13	Selenium, Dissolved	E200.8	04/20/18 11:35	MT4-18-0420A
S89087.13	Selenium	E200.8	04/20/18 11:34	MT4-18-0420A
S89087.13	Zinc, Dissolved	E200.8	04/20/18 11:35	MT4-18-0420A
S89087.13	Zinc	E200.8	04/20/18 11:34	MT4-18-0420A
S89087.14	Arsenic, Dissolved	E200.8	04/20/18 11:47	MT4-18-0420A
S89087.14	Arsenic	E200.8	04/20/18 11:46	MT4-18-0420A
S89087.14	Barium, Dissolved	E200.8	04/20/18 11:47	MT4-18-0420A
S89087.14	Barium	E200.8	04/20/18 11:46	MT4-18-0420A
S89087.14	Lead, Dissolved	E200.8	04/20/18 11:47	MT4-18-0420A
S89087.14	Lead	E200.8	04/20/18 11:46	MT4-18-0420A
S89087.14	Selenium, Dissolved	E200.8	04/20/18 11:47	MT4-18-0420A
S89087.14	Selenium	E200.8	04/20/18 11:46	MT4-18-0420A
S89087.14	Zinc, Dissolved	E200.8	04/20/18 11:47	MT4-18-0420A
S89087.14	Zinc	E200.8	04/20/18 11:46	MT4-18-0420A
S89087.15	Arsenic, Dissolved	E200.8	04/20/18 11:50	MT4-18-0420A
S89087.15	Arsenic	E200.8	04/20/18 11:36	MT4-18-0420A
S89087.15	Barium, Dissolved	E200.8	04/20/18 11:50	MT4-18-0420A
S89087.15	Barium	E200.8	04/20/18 11:36	MT4-18-0420A

## QC Report - Prep Batch Summary

### Metals, Prep Batch ID: MTD-042018-2 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S89087.15	Lead, Dissolved	E200.8	04/20/18 11:50	MT4-18-0420A
S89087.15	Lead	E200.8	04/20/18 11:36	MT4-18-0420A
S89087.15	Selenium, Dissolved	E200.8	04/20/18 11:50	MT4-18-0420A
S89087.15	Selenium	E200.8	04/20/18 11:36	MT4-18-0420A
S89087.15	Zinc, Dissolved	E200.8	04/20/18 11:50	MT4-18-0420A
S89087.15	Zinc	E200.8	04/20/18 11:36	MT4-18-0420A
S89087.16	Arsenic, Dissolved	E200.8	04/20/18 11:51	MT4-18-0420A
S89087.16	Arsenic	E200.8	04/20/18 11:40	MT4-18-0420A
S89087.16	Barium, Dissolved	E200.8	04/20/18 11:51	MT4-18-0420A
S89087.16	Barium	E200.8	04/20/18 11:40	MT4-18-0420A
S89087.16	Lead, Dissolved	E200.8	04/20/18 11:51	MT4-18-0420A
S89087.16	Lead	E200.8	04/20/18 11:40	MT4-18-0420A
S89087.16	Selenium, Dissolved	E200.8	04/20/18 11:51	MT4-18-0420A
S89087.16	Selenium	E200.8	04/20/18 11:40	MT4-18-0420A
S89087.16	Zinc, Dissolved	E200.8	04/20/18 11:51	MT4-18-0420A
S89087.16	Zinc	E200.8	04/20/18 11:40	MT4-18-0420A
S89087.17	Arsenic, Dissolved	E200.8	04/20/18 11:52	MT4-18-0420A
S89087.17	Arsenic	E200.8	04/20/18 11:40	MT4-18-0420A
S89087.17	Barium, Dissolved	E200.8	04/20/18 11:52	MT4-18-0420A
S89087.17	Barium	E200.8	04/20/18 11:40	MT4-18-0420A
S89087.17	Lead, Dissolved	E200.8	04/20/18 11:52	MT4-18-0420A
S89087.17	Lead	E200.8	04/20/18 11:40	MT4-18-0420A
S89087.17	Selenium, Dissolved	E200.8	04/20/18 11:52	MT4-18-0420A
S89087.17	Selenium	E200.8	04/20/18 11:40	MT4-18-0420A
S89087.17	Zinc, Dissolved	E200.8	04/20/18 11:52	MT4-18-0420A
S89087.17	Zinc	E200.8	04/20/18 11:40	MT4-18-0420A
S89087.18	Arsenic, Dissolved	E200.8	04/20/18 11:49	MT4-18-0420A
S89087.18	Arsenic	E200.8	04/20/18 11:48	MT4-18-0420A
S89087.18	Barium, Dissolved	E200.8	04/20/18 11:49	MT4-18-0420A
S89087.18	Barium	E200.8	04/20/18 11:48	MT4-18-0420A
S89087.18	Lead, Dissolved	E200.8	04/20/18 11:49	MT4-18-0420A
S89087.18	Lead	E200.8	04/20/18 11:48	MT4-18-0420A
S89087.18	Selenium, Dissolved	E200.8	04/20/18 11:49	MT4-18-0420A
S89087.18	Selenium	E200.8	04/20/18 11:48	MT4-18-0420A
S89087.18	Zinc, Dissolved	E200.8	04/20/18 11:49	MT4-18-0420A
S89087.18	Zinc	E200.8	04/20/18 11:48	MT4-18-0420A
S89087.19	Arsenic	E200.8	04/20/18 11:29	MT4-18-0420A
S89087.19	Barium	E200.8	04/20/18 11:29	MT4-18-0420A
S89087.19	Lead	E200.8	04/20/18 11:29	MT4-18-0420A
S89087.19	Selenium	E200.8	04/20/18 11:29	MT4-18-0420A
S89087.19	Zinc	E200.8	04/20/18 11:29	MT4-18-0420A
S89087.20	Arsenic	E200.8	04/20/18 11:25	MT4-18-0420A
S89087.20	Barium	E200.8	04/20/18 11:25	MT4-18-0420A
S89087.20	Lead	E200.8	04/20/18 11:25	MT4-18-0420A
S89087.20	Selenium	E200.8	04/20/18 11:25	MT4-18-0420A
S89087.20	Zinc	E200.8	04/20/18 11:25	MT4-18-0420A

## QC Report - Prep Batch Summary

### Organics - Volatiles, Prep Batch ID: VF180419W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S89087.01	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 16:43	180419A3
S89087.02	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 17:03	180419A3
S89087.03	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 17:24	180419A3
S89087.04	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 17:44	180419A3
S89087.05	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 18:05	180419A3
S89087.06	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 18:25	180419A3
S89087.07	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 18:46	180419A3
S89087.08	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 19:06	180419A3
S89087.09	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 19:27	180419A3
S89087.10	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 19:47	180419A3
S89087.11	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 20:07	180419A3
S89087.12	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 20:28	180419A3
S89087.13	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 20:48	180419A3
S89087.14	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 21:09	180419A3
S89087.15	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 16:22	180419A3
S89087.16	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 13:14	180419A3
S89087.17	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 13:35	180419A3
S89087.18	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 21:29	180419A3
S89087.19	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 14:58	180419A3
S89087.20	Volatile Organics - DEQ List	SW5030C/8260C	04/19/18 15:19	180419A3

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.01

Sample Tag: OBG-MW-7S

Collected Date/Time: 04/17/2018 10:40

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 16:43, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.80	80.0	124.0
1,2-Dichloroethane-D4		98.20	72.0	125.0
Toluene-D8		96.60	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.02

Sample Tag: OBG-MW-7D

Collected Date/Time: 04/17/2018 11:30

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 17:03, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.00	80.0	124.0
1,2-Dichloroethane-D4		96.40	72.0	125.0
Toluene-D8		97.60	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.03

Sample Tag: OBG-MW-1S

Collected Date/Time: 04/17/2018 12:35

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 17:24, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		90.40	80.0	124.0
1,2-Dichloroethane-D4		95.60	72.0	125.0
Toluene-D8		96.20	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.04

Sample Tag: OBG-MW-6S

Collected Date/Time: 04/17/2018 13:30

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 17:44, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>90.40</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>96.60</b>	72.0	125.0
Toluene-D8		<b>95.80</b>	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.05

Sample Tag: OBG-MW-6D

Collected Date/Time: 04/17/2018 14:45

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 18:05, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		91.40	80.0	124.0
1,2-Dichloroethane-D4		95.80	72.0	125.0
Toluene-D8		96.40	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.06

Sample Tag: OBG-MW-2S

Collected Date/Time: 04/17/2018 15:45

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 18:25, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		92.80	80.0	124.0
1,2-Dichloroethane-D4		96.40	72.0	125.0
Toluene-D8		96.00	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.07

Sample Tag: OBG-MW-2S Collocated

Collected Date/Time: 04/17/2018 15:45

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 18:46, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.40	80.0	124.0
1,2-Dichloroethane-D4		95.20	72.0	125.0
Toluene-D8		98.00	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: **S89087.08**

Sample Tag: OBG-MW-2D

Collected Date/Time: 04/17/2018 16:45

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 19:06, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>91.80</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>98.60</b>	72.0	125.0
Toluene-D8		<b>95.80</b>	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.09

Sample Tag: OBG-OS-MW-3

Collected Date/Time: 04/18/2018 09:25

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 19:27, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>90.40</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>98.80</b>	72.0	125.0
Toluene-D8		<b>94.60</b>	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.10

Sample Tag: OBG-OS-MW-4

Collected Date/Time: 04/18/2018 10:15

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 19:47, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		91.80	80.0	124.0
1,2-Dichloroethane-D4		96.80	72.0	125.0
Toluene-D8		97.40	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.11

Sample Tag: OBG-OS-MW-5

Collected Date/Time: 04/18/2018 12:05

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 20:07, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>89.80</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>94.20</b>	72.0	125.0
Toluene-D8		<b>97.20</b>	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.12

Sample Tag: OBG-OS-MW-1

Collected Date/Time: 04/18/2018 13:25

Matrix: Groundwater

COC Reference: 114657

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 20:28, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>88.80</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>92.20</b>	72.0	125.0
Toluene-D8		<b>95.20</b>	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.13

Sample Tag: OBG-OS-MW-2

Collected Date/Time: 04/18/2018 14:20

Matrix: Groundwater

COC Reference: 114658

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 20:48, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>89.20</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>95.00</b>	72.0	125.0
Toluene-D8		<b>97.40</b>	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.14

Sample Tag: OBG-MW-5S

Collected Date/Time: 04/18/2018 15:45

Matrix: Groundwater

COC Reference: 114658

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 21:09, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.20	80.0	124.0
1,2-Dichloroethane-D4		95.60	72.0	125.0
Toluene-D8		95.00	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.15

Sample Tag: OBG-MW-3S

Collected Date/Time: 04/18/2018 16:45

Matrix: Groundwater

COC Reference: 114658

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 16:22, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		90.20	80.0	124.0
1,2-Dichloroethane-D4		96.80	72.0	125.0
Toluene-D8		95.40	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.18

Sample Tag: DUP-1

Collected Date/Time: 04/18/2018 00:01

Matrix: Groundwater

COC Reference: 114658

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 21:29, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>89.40</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>96.40</b>	72.0	125.0
Toluene-D8		<b>98.20</b>	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.19

Sample Tag: Field Blank-1

Collected Date/Time: 04/18/2018 17:15

Matrix: Liquid

COC Reference: 114658

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 14:58, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.40	80.0	124.0
1,2-Dichloroethane-D4		96.20	72.0	125.0
Toluene-D8		95.80	89.0	112.0

## QC Report - Surrogates per Lab Sample

Lab Sample ID: S89087.20

Sample Tag: Equipment Blank-1

Collected Date/Time: 04/18/2018 17:20

Matrix: Liquid

COC Reference: 114658

### Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 180419A3, Run Date: 04/19/2018 15:19, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.40	80.0	124.0
1,2-Dichloroethane-D4		95.60	72.0	125.0
Toluene-D8		95.20	89.0	112.0

## QC Report - Surrogates per QC Sample

### Organics - Volatiles, Prep Batch ID: VF180419W1

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

#### Laboratory Control Sample (LCS)

Lab Sample ID: 180419A3.LCSW19A

Run in Batch: 180419A3, Run Date: 04/19/2018 12:33, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.40	80.0	124.0
1,2-Dichloroethane-D4		92.80	72.0	125.0
Toluene-D8		98.00	89.0	112.0

#### Blank (BLK)

Lab Sample ID: 180419A3.BLKW19A

Run in Batch: 180419A3, Run Date: 04/19/2018 14:36, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		90.40	80.0	124.0
1,2-Dichloroethane-D4		93.80	72.0	125.0
Toluene-D8		97.00	89.0	112.0

#### Matrix Spike (MS)

Lab Sample ID: 180419A3.8908716M, Parent Sample ID: S89087.15

Run in Batch: 180419A3, Run Date: 04/19/2018 13:14, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.00	80.0	124.0
1,2-Dichloroethane-D4		95.40	72.0	125.0
Toluene-D8		98.40	89.0	112.0

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: 180419A3.8908717N, Parent Sample ID: 180419A3.8908716M

Run in Batch: 180419A3, Run Date: 04/19/2018 13:35, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.20	80.0	124.0
1,2-Dichloroethane-D4		96.60	72.0	125.0
Toluene-D8		98.80	89.0	112.0

#### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 180419A3.LCSDW19A, Parent Sample ID: 180419A3.LCSW19A

Run in Batch: 180419A3, Run Date: 04/19/2018 12:53, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.80	80.0	124.0
1,2-Dichloroethane-D4		95.20	72.0	125.0
Toluene-D8		98.80	89.0	112.0

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-042018-1

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

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-18-0420A.019.LCS

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 10:40, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		98	85	115
Barium		100	85	115
Lead		103	85	115
Selenium		103	85	115
Zinc		100	85	115

#### Blank (BLK)

Lab Sample ID: MT4-18-0420A.020.LRB

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 10:42, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 1

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

#### Matrix Spike (MS)

Lab Sample ID: MT4-18-0420A.032.MS, Parent Sample ID: S89087.05

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 10:57, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		98	75	125
Barium		95	75	125
Lead		99	75	125
Selenium		96	75	125
Zinc		100	75	125

#### Matrix Spike (MS)

Lab Sample ID: MT4-18-0420A.046.MS, Parent Sample ID: S89087.10

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 11:12, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		100	75	125
Barium		116	75	125
Lead		95	75	125
Selenium		101	75	125
Zinc		98	75	125

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-18-0420A.033.MSD, Parent Sample ID: MT4-18-0420A.032.MS

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 10:58, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		100	75	125	3	20
Barium		99	75	125	3	20
Lead		99	75	125	0	20
Selenium		102	75	125	6	20
Zinc		100	75	125	1	20

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-042018-1 (continued)

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

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-18-0420A.047.MSD, Parent Sample ID: MT4-18-0420A.046.MS

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 11:13, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		100	75	125	1	20
Barium		104	75	125	2	20
Lead		96	75	125	1	20
Selenium		104	75	125	3	20
Zinc		96	75	125	2	20

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-042018-2

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

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-18-0420A.050.LCS

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 11:21, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		98	85	115
Barium		101	85	115
Lead		102	85	115
Selenium		95	85	115
Zinc		99	85	115

#### Blank (BLK)

Lab Sample ID: MT4-18-0420A.051.LRB

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 11:22, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 1

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

#### Matrix Spike (MS)

Lab Sample ID: MT4-18-0420A.062.MS, Parent Sample ID: S89087.15

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 11:40, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		100	75	125
Barium		98	75	125
Lead		94	75	125
Selenium		99	75	125
Zinc		95	75	125

#### Matrix Spike (MS)

Lab Sample ID: MT4-18-0420A.071.MS, Parent Sample ID: S89087.15

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 11:51, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		104	75	125
Barium		102	75	125
Lead		96	75	125
Selenium		102	75	125
Zinc		100	75	125

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-18-0420A.063.MSD, Parent Sample ID: MT4-18-0420A.062.MS

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 11:40, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		100	75	125	1	20
Barium		96	75	125	2	20
Lead		97	75	125	3	20
Selenium		95	75	125	5	20
Zinc		93	75	125	2	20

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-042018-2 (continued)

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

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-18-0420A.072.MSD, Parent Sample ID: MT4-18-0420A.071.MS

Run in Batch: MT4-18-0420A, Run Date: 04/20/2018 11:52, Prep Date: 04/20/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		103	75	125	2	20
Barium		101	75	125	1	20
Lead		96	75	125	1	20
Selenium		101	75	125	0	20
Zinc		96	75	125	4	20

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF180419W1

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

#### Laboratory Control Sample (LCS)

Lab Sample ID: 180419A3.LCSW19A

Run in Batch: 180419A3, Run Date: 04/19/2018 12:33, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		<b>101.38</b>	75.1	135.9
Diethyl ether		<b>98.04</b>	67.4	121.2
Acetone		<b>82.04</b>	29.9	161.5
methyl iodide		<b>94.34</b>	68.8	116.4
Carbon disulfide		<b>105.80</b>	63.8	137.4
Methyl Acetate		<b>99.36</b>	64.7	125.4
tert-Methyl butyl ether (MTBE)		<b>94.04</b>	73.2	122.4
Acrylonitrile		<b>95.64</b>	69.9	128.9
2-Butanone (MEK)		<b>85.48</b>	44.0	134.4
Dichlorodifluoromethane		<b>90.26</b>	10.0	222.8
Chloromethane		<b>92.76</b>	23.8	166.5
Vinyl chloride		<b>88.92</b>	43.5	149.1
Bromomethane		<b>84.36</b>	56.8	151.3
Chloroethane		<b>86.58</b>	53.4	149.4
Acrolein		<b>101.20</b>	70.0	130.0
Trichlorofluoromethane		<b>85.24</b>	59.7	151.8
1,1-Dichloroethene		<b>96.10</b>	69.6	139.4
Methylene chloride		<b>96.80</b>	73.3	121.1
trans-1,2-Dichloroethene		<b>97.10</b>	73.6	129.3
Hexane		<b>93.66</b>	70.0	130.0
1,1-Dichloroethane		<b>98.24</b>	71.5	126.2
cis-1,2-Dichloroethene		<b>95.38</b>	76.6	122.1
Tetrahydrofuran		<b>106.32</b>	59.0	117.9
Chloroform		<b>92.48</b>	78.4	124.0
Bromochloromethane		<b>90.70</b>	78.2	120.8
1,1,1-Trichloroethane		<b>96.66</b>	79.4	130.9
Cyclohexane		<b>96.36</b>	10.0	169.1
4-Methyl-2-pentanone (MIBK)		<b>88.88</b>	71.6	125.2
2-Hexanone		<b>87.66</b>	55.4	136.9
2-Chloroethylvinyl ether	*	<b>3.76</b>	70.0	130.0
Carbon tetrachloride		<b>91.90</b>	72.6	133.0
Benzene		<b>93.88</b>	79.9	124.9
1,2-Dichloroethane		<b>88.64</b>	76.0	126.3
Trichloroethene		<b>92.26</b>	79.7	124.2
1,2-Dichloropropane		<b>95.54</b>	78.6	126.4
Bromodichloromethane		<b>87.80</b>	80.4	128.2
Methyl cyclohexane		<b>96.42</b>	76.6	131.3
Dibromomethane		<b>86.14</b>	76.9	122.1
cis-1,3-Dichloropropene		<b>96.74</b>	79.8	129.9
Toluene		<b>91.36</b>	79.8	124.5
trans-1,3-Dichloropropene		<b>93.86</b>	74.0	131.3
1,1,2-Trichloroethane		<b>91.48</b>	78.7	123.1
Tetrachloroethene		<b>85.78</b>	74.5	124.5
trans-1,4-Dichloro-2-butene		<b>71.50</b>	68.6	135.4
Dibromochloromethane		<b>90.54</b>	74.6	127.2
1,2-Dibromoethane		<b>87.82</b>	70.3	133.7

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF180419W1 (continued)

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

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 180419A3.LCSW19A

Run in Batch: 180419A3, Run Date: 04/19/2018 12:33, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chlorobenzene		<b>90.54</b>	79.2	122.7
1,1,1,2-Tetrachloroethane		<b>88.90</b>	80.3	128.2
Ethylbenzene		<b>90.08</b>	79.5	129.1
p,m-Xylene		<b>87.37</b>	79.4	132.2
o-Xylene		<b>88.86</b>	80.2	131.0
Styrene		<b>84.24</b>	69.5	126.7
Isopropylbenzene		<b>90.12</b>	74.4	121.5
Bromoform		<b>84.78</b>	69.4	128.0
1,1,2,2-Tetrachloroethane		<b>88.32</b>	79.8	126.3
1,2,3-Trichloropropane		<b>84.36</b>	78.3	138.8
n-Propylbenzene		<b>90.12</b>	82.0	130.7
Bromobenzene		<b>86.90</b>	78.7	124.6
2-Chlorotoluene		<b>96.92</b>	70.0	130.0
1,3,5-Trimethylbenzene		<b>86.82</b>	81.3	128.9
tert-Butylbenzene		<b>87.94</b>	80.7	128.9
1,2,4-Trimethylbenzene		<b>87.44</b>	81.4	130.8
sec-Butylbenzene		<b>91.92</b>	77.4	129.8
p-Isopropyltoluene		<b>89.88</b>	79.8	137.5
1,3-Dichlorobenzene		<b>89.02</b>	77.0	131.3
1,4-Dichlorobenzene		<b>89.74</b>	20.7	137.7
1,2-Dichlorobenzene		<b>91.02</b>	10.0	166.2
1,2,3-Trimethylbenzene		<b>96.66</b>	76.3	124.2
n-Butylbenzene		<b>89.70</b>	80.0	133.3
Hexachloroethane		<b>96.94</b>	23.8	138.1
1,2-Dibromo-3-chloropropane		<b>89.70</b>	21.2	189.4
1,2,4-Trichlorobenzene		<b>88.32</b>	27.4	143.4
1,2,3-Trichlorobenzene		<b>89.50</b>	75.4	131.4
Naphthalene		<b>93.30</b>	32.9	135.8
2-Methylnaphthalene		<b>103.48</b>	25.5	165.5

### Blank (BLK)

Lab Sample ID: 180419A3.BLKW19A

Run in Batch: 180419A3, Run Date: 04/19/2018 14:36, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		<b>ND</b>	1.00	ug/l
Acetone		<b>ND</b>	10.00	ug/l
Methyl iodide		<b>ND</b>	1.00	ug/l
Carbon disulfide		<b>ND</b>	1.00	ug/l
tert-Methyl butyl ether (MTBE)		<b>ND</b>	1.00	ug/l
Acrylonitrile		<b>ND</b>	1.00	ug/l
2-Butanone (MEK)		<b>ND</b>	10.00	ug/l
Dichlorodifluoromethane		<b>ND</b>	1.00	ug/l
Chloromethane		<b>ND</b>	1.00	ug/l
Vinyl chloride		<b>ND</b>	1.00	ug/l
Bromomethane		<b>ND</b>	1.00	ug/l
Chloroethane		<b>ND</b>	1.00	ug/l

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF180419W1 (continued)

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

### Blank (BLK) (continued)

Lab Sample ID: 180419A3.BLKW19A

Run in Batch: 180419A3, Run Date: 04/19/2018 14:36, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran	*	6.98	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
1,1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF180419W1 (continued)

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

### Blank (BLK) (continued)

Lab Sample ID: 180419A3.BLKW19A

Run in Batch: 180419A3, Run Date: 04/19/2018 14:36, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene	*	0.11	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene	*	0.16	1.00	ug/l

### Matrix Spike (MS)

Lab Sample ID: 180419A3.8908716M, Parent Sample ID: S89087.15

Run in Batch: 180419A3, Run Date: 04/19/2018 13:14, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		105.64	67.4	121.2
Acetone		88.10	29.9	161.5
methyl iodide		99.36	68.8	116.4
Carbon disulfide		109.34	63.8	137.4
tert-Methyl butyl ether (MTBE)		103.36	73.2	122.4
Acrylonitrile		103.94	69.9	128.9
2-Butanone (MEK)		101.62	44.0	134.4
Dichlorodifluoromethane		94.50	10.0	222.8
Chloromethane		99.52	23.8	166.5
Vinyl chloride		91.84	43.5	149.1
Bromomethane		87.30	56.8	151.3
Chloroethane		91.44	53.4	149.4
Trichlorofluoromethane		89.50	59.7	151.8
1,1-Dichloroethene		100.82	69.6	139.4
Methylene chloride		101.90	73.3	121.1
trans-1,2-Dichloroethene		101.38	73.6	129.3
1,1-Dichloroethane		103.00	71.5	126.2
cis-1,2-Dichloroethene		100.44	76.6	122.1
Tetrahydrofuran		103.92	59.0	117.9
Chloroform		97.24	78.4	124.0
Bromochloromethane		95.18	78.2	120.8
1,1,1-Trichloroethane		100.98	79.4	130.9
4-Methyl-2-pentanone (MIBK)		103.02	71.6	125.2
2-Hexanone		99.96	55.4	136.9
Carbon tetrachloride		95.84	72.6	133.0
Benzene		97.60	79.9	124.9
1,2-Dichloroethane		94.40	76.0	126.3
Trichloroethene		96.28	79.7	124.2
1,2-Dichloropropane		98.96	78.6	126.4
Bromodichloromethane		91.92	80.4	128.2
Dibromomethane		91.18	76.9	122.1
cis-1,3-Dichloropropene		101.76	79.8	129.9

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF180419W1 (continued)

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

### Matrix Spike (MS) (continued)

Lab Sample ID: 180419A3.8908716M, Parent Sample ID: S89087.15

Run in Batch: 180419A3, Run Date: 04/19/2018 13:14, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Toluene		<b>94.72</b>	79.8	124.5
trans-1,3-Dichloropropene		<b>99.18</b>	74.0	131.3
1,1,2-Trichloroethane		<b>96.46</b>	78.7	123.1
Tetrachloroethene		<b>89.82</b>	74.5	124.5
trans-1,4-Dichloro-2-butene	*	<b>59.42</b>	68.6	135.4
Dibromochloromethane		<b>92.26</b>	74.6	127.2
1,2-Dibromoethane		<b>90.58</b>	70.3	133.7
Chlorobenzene		<b>91.84</b>	79.2	122.7
1,1,1,2-Tetrachloroethane		<b>91.54</b>	80.3	128.2
Ethylbenzene		<b>91.84</b>	79.5	129.1
p,m-Xylene		<b>88.28</b>	79.4	132.2
o-Xylene		<b>90.94</b>	80.2	131.0
Styrene		<b>85.78</b>	69.5	126.7
Isopropylbenzene		<b>92.12</b>	74.4	121.5
Bromoform		<b>88.76</b>	69.4	128.0
1,1,2,2-Tetrachloroethane		<b>94.16</b>	79.8	126.3
1,2,3-Trichloropropane		<b>91.12</b>	78.3	138.8
n-Propylbenzene		<b>92.02</b>	82.0	130.7
Bromobenzene		<b>87.42</b>	78.7	124.6
1,3,5-Trimethylbenzene		<b>89.32</b>	81.3	128.9
tert-Butylbenzene		<b>90.16</b>	80.7	128.9
1,2,4-Trimethylbenzene		<b>88.96</b>	81.4	130.8
sec-Butylbenzene		<b>95.66</b>	77.4	129.8
p-Isopropyltoluene		<b>94.24</b>	79.8	137.5
1,3-Dichlorobenzene		<b>92.02</b>	77.0	131.3
1,4-Dichlorobenzene		<b>93.46</b>	20.7	137.7
1,2-Dichlorobenzene		<b>95.14</b>	10.0	166.2
1,2,3-Trimethylbenzene		<b>100.58</b>	76.3	124.2
n-Butylbenzene		<b>93.80</b>	80.0	133.3
Hexachloroethane		<b>98.68</b>	23.8	138.1
1,2-Dibromo-3-chloropropane		<b>100.46</b>	21.2	189.4
1,2,4-Trichlorobenzene		<b>93.84</b>	27.4	143.4
1,2,3-Trichlorobenzene		<b>95.28</b>	75.4	131.4
Naphthalene		<b>102.70</b>	32.9	135.8
2-Methylnaphthalene		<b>115.42</b>	25.5	165.5

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 180419A3.8908717N, Parent Sample ID: 180419A3.8908716M

Run in Batch: 180419A3, Run Date: 04/19/2018 13:35, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		<b>107.22</b>	67.4	121.2	<b>1.5</b>	30.0
Acetone		<b>92.82</b>	29.9	161.5	<b>5.2</b>	30.0
methyl iodide		<b>98.32</b>	68.8	116.4	<b>1.1</b>	30.0
Carbon disulfide		<b>107.94</b>	63.8	137.4	<b>1.3</b>	30.0
tert-Methyl butyl ether (MTBE)		<b>104.38</b>	73.2	122.4	<b>1.0</b>	30.0
Acrylonitrile		<b>106.76</b>	69.9	128.9	<b>2.7</b>	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF180419W1 (continued)

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

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 180419A3.8908717N, Parent Sample ID: 180419A3.8908716M

Run in Batch: 180419A3, Run Date: 04/19/2018 13:35, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
2-Butanone (MEK)		<b>104.10</b>	44.0	134.4	<b>2.4</b>	30.0
Dichlorodifluoromethane		<b>93.44</b>	10.0	222.8	<b>1.1</b>	30.0
Chloromethane		<b>98.56</b>	23.8	166.5	<b>1.0</b>	30.0
Vinyl chloride		<b>90.92</b>	43.5	149.1	<b>1.0</b>	30.0
Bromomethane		<b>85.26</b>	56.8	151.3	<b>2.4</b>	30.0
Chloroethane		<b>89.64</b>	53.4	149.4	<b>2.0</b>	30.0
Trichlorofluoromethane		<b>88.00</b>	59.7	151.8	<b>1.7</b>	30.0
1,1-Dichloroethene		<b>99.82</b>	69.6	139.4	<b>1.0</b>	30.0
Methylene chloride		<b>101.58</b>	73.3	121.1	<b>0.3</b>	30.0
trans-1,2-Dichloroethene		<b>101.32</b>	73.6	129.3	<b>0.1</b>	30.0
1,1-Dichloroethane		<b>102.94</b>	71.5	126.2	<b>0.1</b>	30.0
cis-1,2-Dichloroethene		<b>100.20</b>	76.6	122.1	<b>0.2</b>	30.0
Tetrahydrofuran		<b>107.04</b>	59.0	117.9	<b>2.9</b>	30.0
Chloroform		<b>96.94</b>	78.4	124.0	<b>0.3</b>	30.0
Bromochloromethane		<b>95.16</b>	78.2	120.8	<b>0.0</b>	30.0
1,1,1-Trichloroethane		<b>100.46</b>	79.4	130.9	<b>0.5</b>	30.0
4-Methyl-2-pentanone (MIBK)		<b>107.48</b>	71.6	125.2	<b>4.2</b>	30.0
2-Hexanone		<b>106.06</b>	55.4	136.9	<b>5.9</b>	30.0
Carbon tetrachloride		<b>96.26</b>	72.6	133.0	<b>0.4</b>	30.0
Benzene		<b>98.70</b>	79.9	124.9	<b>1.1</b>	30.0
1,2-Dichloroethane		<b>96.46</b>	76.0	126.3	<b>2.2</b>	30.0
Trichloroethene		<b>97.48</b>	79.7	124.2	<b>1.2</b>	30.0
1,2-Dichloropropane		<b>100.60</b>	78.6	126.4	<b>1.6</b>	30.0
Bromodichloromethane		<b>93.52</b>	80.4	128.2	<b>1.7</b>	30.0
Dibromomethane		<b>93.00</b>	76.9	122.1	<b>2.0</b>	30.0
cis-1,3-Dichloropropene		<b>103.80</b>	79.8	129.9	<b>2.0</b>	30.0
Toluene		<b>96.90</b>	79.8	124.5	<b>2.3</b>	30.0
trans-1,3-Dichloropropene		<b>101.16</b>	74.0	131.3	<b>2.0</b>	30.0
1,1,2-Trichloroethane		<b>99.08</b>	78.7	123.1	<b>2.7</b>	30.0
Tetrachloroethene		<b>91.76</b>	74.5	124.5	<b>2.1</b>	30.0
trans-1,4-Dichloro-2-butene	*	<b>58.00</b>	68.6	135.4	<b>2.4</b>	30.0
Dibromochloromethane		<b>96.42</b>	74.6	127.2	<b>4.4</b>	30.0
1,2-Dibromoethane		<b>94.20</b>	70.3	133.7	<b>3.9</b>	30.0
Chlorobenzene		<b>95.14</b>	79.2	122.7	<b>3.5</b>	30.0
1,1,1,2-Tetrachloroethane		<b>93.20</b>	80.3	128.2	<b>1.8</b>	30.0
Ethylbenzene		<b>94.40</b>	79.5	129.1	<b>2.7</b>	30.0
p,m-Xylene		<b>90.63</b>	79.4	132.2	<b>2.6</b>	30.0
o-Xylene		<b>93.58</b>	80.2	131.0	<b>2.9</b>	30.0
Styrene		<b>88.04</b>	69.5	126.7	<b>2.6</b>	30.0
Isopropylbenzene		<b>94.52</b>	74.4	121.5	<b>2.6</b>	30.0
Bromoform		<b>92.76</b>	69.4	128.0	<b>4.4</b>	30.0
1,1,2,2-Tetrachloroethane		<b>99.54</b>	79.8	126.3	<b>5.6</b>	30.0
1,2,3-Trichloropropane		<b>94.70</b>	78.3	138.8	<b>3.9</b>	30.0
n-Propylbenzene		<b>94.28</b>	82.0	130.7	<b>2.4</b>	30.0
Bromobenzene		<b>90.70</b>	78.7	124.6	<b>3.7</b>	30.0
1,3,5-Trimethylbenzene		<b>91.98</b>	81.3	128.9	<b>2.9</b>	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF180419W1 (continued)

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

### Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 180419A3.8908717N, Parent Sample ID: 180419A3.8908716M

Run in Batch: 180419A3, Run Date: 04/19/2018 13:35, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Butylbenzene		<b>91.80</b>	80.7	128.9	<b>1.8</b>	30.0
1,2,4-Trimethylbenzene		<b>90.92</b>	81.4	130.8	<b>2.2</b>	30.0
sec-Butylbenzene		<b>96.22</b>	77.4	129.8	<b>0.6</b>	30.0
p-Isopropyltoluene		<b>94.50</b>	79.8	137.5	<b>0.3</b>	30.0
1,3-Dichlorobenzene		<b>93.14</b>	77.0	131.3	<b>1.2</b>	30.0
1,4-Dichlorobenzene		<b>94.88</b>	20.7	137.7	<b>1.5</b>	30.0
1,2-Dichlorobenzene		<b>96.58</b>	10.0	166.2	<b>1.5</b>	30.0
1,2,3-Trimethylbenzene		<b>101.38</b>	76.3	124.2	<b>0.8</b>	30.0
n-Butylbenzene		<b>93.52</b>	80.0	133.3	<b>0.3</b>	30.0
Hexachloroethane		<b>99.30</b>	23.8	138.1	<b>0.6</b>	30.0
1,2-Dibromo-3-chloropropane		<b>104.96</b>	21.2	189.4	<b>4.4</b>	30.0
1,2,4-Trichlorobenzene		<b>95.52</b>	27.4	143.4	<b>1.8</b>	30.0
1,2,3-Trichlorobenzene		<b>97.56</b>	75.4	131.4	<b>2.4</b>	30.0
Naphthalene		<b>105.68</b>	32.9	135.8	<b>2.9</b>	30.0
2-Methylnaphthalene		<b>122.16</b>	25.5	165.5	<b>5.7</b>	30.0

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 180419A3.LCSDW19A, Parent Sample ID: 180419A3.LCSW19A

Run in Batch: 180419A3, Run Date: 04/19/2018 12:53, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		<b>107.64</b>	75.1	135.9	<b>6.0</b>	30.0
Diethyl ether		<b>109.76</b>	67.4	121.2	<b>11.3</b>	30.0
Acetone		<b>94.76</b>	29.9	161.5	<b>14.4</b>	30.0
methyl iodide		<b>101.64</b>	68.8	116.4	<b>7.4</b>	30.0
Carbon disulfide		<b>112.66</b>	63.8	137.4	<b>6.3</b>	30.0
Methyl Acetate		<b>114.10</b>	64.7	125.4	<b>13.8</b>	30.0
tert-Methyl butyl ether (MTBE)		<b>105.32</b>	73.2	122.4	<b>11.3</b>	30.0
Acrylonitrile		<b>109.88</b>	69.9	128.9	<b>13.9</b>	30.0
2-Butanone (MEK)		<b>99.82</b>	44.0	134.4	<b>15.5</b>	30.0
Dichlorodifluoromethane		<b>96.20</b>	10.0	222.8	<b>6.4</b>	30.0
Chloromethane		<b>101.38</b>	23.8	166.5	<b>8.9</b>	30.0
Vinyl chloride		<b>94.26</b>	43.5	149.1	<b>5.8</b>	30.0
Bromomethane		<b>88.46</b>	56.8	151.3	<b>4.7</b>	30.0
Chloroethane		<b>93.34</b>	53.4	149.4	<b>7.5</b>	30.0
Acrolein		<b>115.68</b>	70.0	130.0	<b>13.4</b>	30.0
Trichlorofluoromethane		<b>90.02</b>	59.7	151.8	<b>5.5</b>	30.0
1,1-Dichloroethene		<b>103.12</b>	69.6	139.4	<b>7.0</b>	30.0
Methylene chloride		<b>104.62</b>	73.3	121.1	<b>7.8</b>	30.0
trans-1,2-Dichloroethene		<b>104.54</b>	73.6	129.3	<b>7.4</b>	30.0
Hexane		<b>98.62</b>	70.0	130.0	<b>5.2</b>	30.0
1,1-Dichloroethane		<b>106.54</b>	71.5	126.2	<b>8.1</b>	30.0
cis-1,2-Dichloroethene		<b>102.78</b>	76.6	122.1	<b>7.5</b>	30.0
Tetrahydrofuran	*	<b>120.82</b>	59.0	117.9	<b>12.8</b>	30.0
Chloroform		<b>99.46</b>	78.4	124.0	<b>7.3</b>	30.0
Bromochloromethane		<b>97.74</b>	78.2	120.8	<b>7.5</b>	30.0
1,1,1-Trichloroethane		<b>102.82</b>	79.4	130.9	<b>6.2</b>	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF180419W1 (continued)

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

### Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 180419A3.LCSDW19A, Parent Sample ID: 180419A3.LCSW19A

Run in Batch: 180419A3, Run Date: 04/19/2018 12:53, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Cyclohexane		<b>102.10</b>	10.0	169.1	<b>5.8</b>	30.0
4-Methyl-2-pentanone (MIBK)		<b>104.38</b>	71.6	125.2	<b>16.0</b>	30.0
2-Hexanone		<b>101.68</b>	55.4	136.9	<b>14.8</b>	30.0
2-Chloroethylvinyl ether	*	<b>1.78</b>	70.0	130.0	<b>71.5</b>	30.0
Carbon tetrachloride		<b>97.74</b>	72.6	133.0	<b>6.2</b>	30.0
Benzene		<b>100.56</b>	79.9	124.9	<b>6.9</b>	30.0
1,2-Dichloroethane		<b>97.26</b>	76.0	126.3	<b>9.3</b>	30.0
Trichloroethene		<b>98.96</b>	79.7	124.2	<b>7.0</b>	30.0
1,2-Dichloropropane		<b>101.58</b>	78.6	126.4	<b>6.1</b>	30.0
Bromodichloromethane		<b>94.80</b>	80.4	128.2	<b>7.7</b>	30.0
Methyl cyclohexane		<b>101.20</b>	76.6	131.3	<b>4.8</b>	30.0
Dibromomethane		<b>94.28</b>	76.9	122.1	<b>9.0</b>	30.0
cis-1,3-Dichloropropene		<b>104.90</b>	79.8	129.9	<b>8.1</b>	30.0
Toluene		<b>98.26</b>	79.8	124.5	<b>7.3</b>	30.0
trans-1,3-Dichloropropene		<b>102.14</b>	74.0	131.3	<b>8.4</b>	30.0
1,1,2-Trichloroethane		<b>99.92</b>	78.7	123.1	<b>8.8</b>	30.0
Tetrachloroethene		<b>92.32</b>	74.5	124.5	<b>7.3</b>	30.0
trans-1,4-Dichloro-2-butene	*	<b>67.10</b>	68.6	135.4	<b>6.3</b>	30.0
Dibromochloromethane		<b>98.88</b>	74.6	127.2	<b>8.8</b>	30.0
1,2-Dibromoethane		<b>96.14</b>	70.3	133.7	<b>9.0</b>	30.0
Chlorobenzene		<b>97.80</b>	79.2	122.7	<b>7.7</b>	30.0
1,1,1,2-Tetrachloroethane		<b>96.54</b>	80.3	128.2	<b>8.2</b>	30.0
Ethylbenzene		<b>96.76</b>	79.5	129.1	<b>7.2</b>	30.0
p,m-Xylene		<b>93.16</b>	79.4	132.2	<b>6.4</b>	30.0
o-Xylene		<b>96.28</b>	80.2	131.0	<b>8.0</b>	30.0
Styrene		<b>91.16</b>	69.5	126.7	<b>7.9</b>	30.0
Isopropylbenzene		<b>96.24</b>	74.4	121.5	<b>6.6</b>	30.0
Bromoform		<b>94.86</b>	69.4	128.0	<b>11.2</b>	30.0
1,1,1,2-Tetrachloroethane		<b>99.58</b>	79.8	126.3	<b>12.0</b>	30.0
1,2,3-Trichloropropane		<b>95.12</b>	78.3	138.8	<b>12.0</b>	30.0
n-Propylbenzene		<b>96.00</b>	82.0	130.7	<b>6.3</b>	30.0
Bromobenzene		<b>92.40</b>	78.7	124.6	<b>6.1</b>	30.0
2-Chlorotoluene		<b>95.10</b>	70.0	130.0	<b>1.9</b>	30.0
1,3,5-Trimethylbenzene		<b>93.28</b>	81.3	128.9	<b>7.2</b>	30.0
tert-Butylbenzene		<b>93.66</b>	80.7	128.9	<b>6.3</b>	30.0
1,2,4-Trimethylbenzene		<b>93.12</b>	81.4	130.8	<b>6.3</b>	30.0
sec-Butylbenzene		<b>99.44</b>	77.4	129.8	<b>7.9</b>	30.0
p-Isopropyltoluene		<b>97.38</b>	79.8	137.5	<b>8.0</b>	30.0
1,3-Dichlorobenzene		<b>97.10</b>	77.0	131.3	<b>8.7</b>	30.0
1,4-Dichlorobenzene		<b>98.06</b>	20.7	137.7	<b>8.9</b>	30.0
1,2-Dichlorobenzene		<b>99.48</b>	10.0	166.2	<b>8.9</b>	30.0
1,2,3-Trimethylbenzene		<b>105.14</b>	76.3	124.2	<b>8.4</b>	30.0
n-Butylbenzene		<b>97.42</b>	80.0	133.3	<b>8.3</b>	30.0
Hexachloroethane		<b>103.30</b>	23.8	138.1	<b>6.4</b>	30.0
1,2-Dibromo-3-chloropropane		<b>105.70</b>	21.2	189.4	<b>16.4</b>	30.0
1,2,4-Trichlorobenzene		<b>97.22</b>	27.4	143.4	<b>9.6</b>	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF180419W1 (continued)

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

### Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 180419A3.LCSDW19A, Parent Sample ID: 180419A3.LCSW19A

Run in Batch: 180419A3, Run Date: 04/19/2018 12:53, Prep Date: 04/19/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trichlorobenzene		<b>99.24</b>	75.4	131.4	<b>10.3</b>	30.0
Naphthalene		<b>106.58</b>	32.9	135.8	<b>13.3</b>	30.0
2-Methylnaphthalene		<b>120.48</b>	25.5	165.5	<b>15.2</b>	30.0



Merit Laboratories, Inc.

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

C.O.C. PAGE # 1 OF 2

114657

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Clifford Yantz  
 COMPANY O'Brien + Gere  
 ADDRESS 2260 E Saginaw St  
 CITY East Lansing STATE MI ZIP CODE 48823  
 PHONE NO. 414-837-3607 FAX NO. \_\_\_\_\_ R.O. NO. \_\_\_\_\_  
 E-MAIL ADDRESS Clifford.Yantz@obg.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 Hemphill Rd SA Sampling SAMPLER(S) - PLEASE PRINT/SIGN NAME Kevin Schneider  
 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

MATRIX	# OF BOTTLES	NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER	VOCs	TOTAL As, Ba, Pb, Se, Zn	Dissolved As, Ba, Pb, Se, Zn
GW	5	3	2						X	X	X
.02									X	X	X
.03									X	X	X
.04									X	X	X
.05									X	X	X
.06									X	X	X
.07									X	X	X
.08									X	X	X
.09									X	X	X
.10									X	X	X
.11									X	X	X
.12									X	X	X

Certifications  
 OHIO VAP  Drinking Water  
 DoD  NPDES  
 Project Locations  
 Detroit  New York  
 Other \_\_\_\_\_  
 Special Instructions

Dissolved Metals were field Filtered

RELINQUISHED BY: [Signature] OBG  Sampler DATE 4/19/18 TIME 10:29  
 RECEIVED BY: [Signature] DATE 4/19/18 TIME 10:29  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_ NOTES: TEMP. ON ARRIVAL 3.9  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_



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C.O.C. PAGE # 2 OF 2

114658

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME Clifford Yantz  
 COMPANY O'Brien & Gere  
 ADDRESS 2260 E Saginaw St  
 CITY East Lansing STATE MI ZIP CODE 48823  
 PHONE NO. 414-837-3607 FAX NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_  
 E-MAIL ADDRESS Clifford.Yantz@OBG.COM QUOTE NO. \_\_\_\_\_

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

PROJECT NO./NAME RACER Humphill Rd SA Sampling SAMPLER(S) - PLEASE PRINT/SIGN NAME Kevin Schneider KLL  
 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=WIFE A=AIR W=WASTE

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

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	VOLs	TOTAL As, Ba, Pb, Se, Zn	Dissolved As, Ba, Pb, Se, Zn	Certifications	Project Locations	Special Instructions
	DATE	TIME																
89087.13	4/18/18	1420	OBG-OS-MW-2	GW	5		3	3					X	X	X	<input type="checkbox"/> OHIO VAP <input type="checkbox"/> Drinking Water	<input type="checkbox"/> Detroit <input type="checkbox"/> New York	Dissolved Metals were field filtered
.14		1545	OBG-MW-55		5		3	2					X	X	X	<input type="checkbox"/> DoD <input type="checkbox"/> NPDES		
.15		1645	OBG-MW-35		5		3	2					X	X	X			
.16/.17		1645	OBG-MW-35 (MS/MSD)		12		8	4					X	X	X			
.18		-	DUP-1	V	5		3	2					X	X	X			
.19		1715	Field Blank-1	QC	4		3	1					X	X				
.20		1720	Equipment Blank-1	QC	4		3	1					X	X				
.21		-	Trip Blank-1	QC	2		2						X					

RELINQUISHED BY: KLL OBG Sampler 4/19/18 TIME 1029  
 RECEIVED BY: M. Chilcote 4/19/18 TIME 1029

RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 NOTES: TEMP. ON ARRIVAL 3.9



**Exhibit C**  
**Groundwater Analytical**  
**Data – October 2018**



# Analytical Laboratory Report

Report ID: S95705.01(01)  
Generated on 10/29/2018

## Report to

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Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
2260 E Saginaw St  
East Lansing, MI 48823

Phone: 414-837-3607 FAX:  
Email: Clifford.Yantz@obg.com

## Report produced by

---

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

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

## Contacts for report questions:

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

## Report Summary

---

Lab Sample ID(s): S95705.01-S95705.21  
Project: RACER Hemphill Rd SA  
Collected Date: 10/15/2018 - 10/17/2018  
Submitted Date/Time: 10/17/2018 15:55  
Sampled by: Kevin Schneider  
P.O. #: 11700374

## Table of Contents

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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

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

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

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

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

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

## 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
Alaska CSLAP	#17-001

## Qualifier Descriptions

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

## Glossary of Abbreviations

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



# Analytical Laboratory Report

## Method Summary

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



# Analytical Laboratory Report

## Sample Summary (21 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S95705.01	OBG MW-7S	Groundwater	10/15/18 10:27
S95705.02	OBG MW-7D	Groundwater	10/15/18 12:28
S95705.03	OBG MW-1S	Groundwater	10/15/18 13:35
S95705.04	OBG MW-1S Collocated	Groundwater	10/15/18 13:35
S95705.05	OBG MW-6D	Groundwater	10/16/18 12:27
S95705.06	OBG MW-2S	Groundwater	10/16/18 13:28
S95705.07	OBG MW-2D	Groundwater	10/16/18 14:42
S95705.08	OBG MW-5S	Groundwater	10/16/18 15:57
S95705.09	OBG MW-3S	Groundwater	10/16/18 17:17
S95705.10	DUP-1	Groundwater	10/16/18 00:01
S95705.11	OBG-OS-MW-3	Groundwater	10/17/18 09:56
S95705.12	OBG-OS-MW-4	Groundwater	10/17/18 10:52
S95705.13	Field Blank-1	Water	10/17/18 11:30
S95705.14	OBG-OS-MW-5	Groundwater	10/17/18 11:45
S95705.15	OBG-OS-MW-5 MS	Groundwater	10/17/18 11:45
S95705.16	OBG-OS-MW-5 MSD	Groundwater	10/17/18 11:45
S95705.17	OBG-OS-MW-1	Groundwater	10/17/18 13:35
S95705.18	OBG-OS-MW-2	Groundwater	10/17/18 14:20
S95705.19	OBG MW-6S	Groundwater	10/17/18 14:45
S95705.20	Equipment Blank-1	Water	10/17/18 14:50
S95705.21	Trip Blank-1	Water	10/17/18 00:01



# Analytical Laboratory Report

Lab Sample ID: S95705.01

Sample Tag: OBG MW-7S

Collected Date/Time: 10/15/2018 10:27

Matrix: Groundwater

COC Reference: 111370

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/18/18 23:50	WAT	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	

### Metals

Method: E200.8, Run Date: 10/23/18 10:23, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.017	0.002		mg/L	5	7440-38-2	
Barium	0.214	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: E200.8, Run Date: 10/23/18 10:27, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.014	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.209	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/18/18 19:51, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.01 (continued)

Sample Tag: OBG MW-7S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/18/18 19:51, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.02

Sample Tag: OBG MW-7D

Collected Date/Time: 10/15/2018 12:28

Matrix: Groundwater

COC Reference: 111370

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/18/18 23:50	WAT	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	

**Metals**

**Method: E200.8, Run Date: 10/23/18 10:29, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.030	0.002		mg/L	5	7440-38-2	
Barium	0.102	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	0.007	0.005		mg/L	5	7440-66-6	

**Method: E200.8, Run Date: 10/23/18 10:31, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.028	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.094	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/18/18 20:11, Analyst: JML**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.02 (continued)

Sample Tag: OBG MW-7D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/18/18 20:11, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.03

Sample Tag: OBG MW-1S

Collected Date/Time: 10/15/2018 13:35

Matrix: Groundwater

COC Reference: 111370

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/18/18 23:55	WAT	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	

### Metals

Method: E200.8, Run Date: 10/23/18 10:34, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.002	0.002		mg/L	5	7440-38-2	
Barium	0.157	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: E200.8, Run Date: 10/23/18 10:36, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.002	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.155	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/18/18 20:31, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.03 (continued)

Sample Tag: OBG MW-1S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/18/18 20:31, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.04

Sample Tag: OBG MW-1S Collocated

Collected Date/Time: 10/15/2018 13:35

Matrix: Groundwater

COC Reference: 111370

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	

### Metals

Method: E200.8, Run Date: 10/23/18 10:38, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.002	0.002		mg/L	5	7440-38-2	
Barium	0.157	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: E200.8, Run Date: 10/23/18 10:41, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.002	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.155	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 01:44, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.04 (continued)

Sample Tag: OBG MW-1S Collocated

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/21/18 01:44, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.05

Sample Tag: OBG MW-6D

Collected Date/Time: 10/16/2018 12:27

Matrix: Groundwater

COC Reference: 111370

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	

### Metals

Method: E200.8, Run Date: 10/23/18 10:43, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.019	0.002		mg/L	5	7440-38-2	
Barium	0.072	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: E200.8, Run Date: 10/23/18 10:45, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.018	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.071	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/23/18 15:58, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.05 (continued)

Sample Tag: OBG MW-6D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/23/18 15:58, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.06

Sample Tag: OBG MW-2S

Collected Date/Time: 10/16/2018 13:28

Matrix: Groundwater

COC Reference: 111370

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	

**Metals**

**Method: E200.8, Run Date: 10/23/18 10:53, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.030	0.002		mg/L	5	7440-38-2	
Barium	0.170	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

**Method: E200.8, Run Date: 10/23/18 10:56, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.028	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.167	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 17:58, Analyst: JML**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.06 (continued)

Sample Tag: OBG MW-2S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 17:58, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.07

Sample Tag: OBG MW-2D

Collected Date/Time: 10/16/2018 14:42

Matrix: Groundwater

COC Reference: 111370

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	

**Metals**

**Method: E200.8, Run Date: 10/23/18 10:58, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.041	0.002		mg/L	5	7440-38-2	
Barium	0.256	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

**Method: E200.8, Run Date: 10/23/18 11:00, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.041	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.252	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 18:17, Analyst: JML**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.07 (continued)

Sample Tag: OBG MW-2D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 18:17, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.08

Sample Tag: OBG MW-5S

Collected Date/Time: 10/16/2018 15:57

Matrix: Groundwater

COC Reference: 111370

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	

**Metals**

**Method: E200.8, Run Date: 10/23/18 11:03, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.005	0.002		mg/L	5	7440-38-2	
Barium	1.16	0.005		mg/L	5	7440-39-3	
Lead	0.004	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	0.017	0.005		mg/L	5	7440-66-6	

**Method: E200.8, Run Date: 10/23/18 11:05, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.003	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	1.16	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 18:36, Analyst: JML**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.08 (continued)

Sample Tag: OBG MW-5S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 18:36, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	1	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.09

Sample Tag: OBG MW-3S

Collected Date/Time: 10/16/2018 17:17

Matrix: Groundwater

COC Reference: 111370

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	

**Metals**

**Method: E200.8, Run Date: 10/23/18 11:07, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.007	0.002		mg/L	5	7440-38-2	
Barium	0.184	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

**Method: E200.8, Run Date: 10/23/18 11:09, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.004	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.172	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 18:56, Analyst: JML**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.09 (continued)

Sample Tag: OBG MW-3S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 18:56, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.10

Sample Tag: DUP-1

Collected Date/Time: 10/16/2018 00:01

Matrix: Groundwater

COC Reference: 111370

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 09:30	CCM	

**Metals**

**Method: E200.8, Run Date: 10/23/18 11:12, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.004	0.002		mg/L	5	7440-38-2	
Barium	1.16	0.005		mg/L	5	7440-39-3	
Lead	0.004	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	0.015	0.005		mg/L	5	7440-66-6	

**Method: E200.8, Run Date: 10/23/18 11:14, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.004	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	1.16	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 19:15, Analyst: JML**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.10 (continued)

Sample Tag: DUP-1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 19:15, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	1	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.11

Sample Tag: OBG-OS-MW-3

Collected Date/Time: 10/17/2018 09:56

Matrix: Groundwater

COC Reference: 111370

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	

**Metals**

**Method: E200.8, Run Date: 10/23/18 11:37, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.008	0.002		mg/L	5	7440-38-2	
Barium	0.664	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	0.005	0.005		mg/L	5	7440-66-6	

**Method: E200.8, Run Date: 10/23/18 11:40, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.008	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.652	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	0.007	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 19:34, Analyst: JML**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.11 (continued)

Sample Tag: OBG-OS-MW-3

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 19:34, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.12

Sample Tag: OBG-OS-MW-4

Collected Date/Time: 10/17/2018 10:52

Matrix: Groundwater

COC Reference: 111370

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	

### Metals

Method: E200.8, Run Date: 10/23/18 11:42, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.002	0.002		mg/L	5	7440-38-2	
Barium	1.18	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: E200.8, Run Date: 10/23/18 11:44, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.002	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	1.20	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 19:53, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.12 (continued)

Sample Tag: OBG-OS-MW-4

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 19:53, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	8	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	1	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	6	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	10	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	3	1		ug/L	1	95-63-6	
sec-Butylbenzene	2	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	4	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	3	1		ug/L	1	526-73-8	
n-Butylbenzene	1	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	32	5		ug/L	1	91-20-3	
2-Methylnaphthalene	44	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.13

Sample Tag: Field Blank-1

Collected Date/Time: 10/17/2018 11:30

Matrix: Water

COC Reference: 81844

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	

**Metals**

Method: E200.8, Run Date: 10/23/18 11:33, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	Not detected	0.002		mg/L	2	7440-38-2	
Barium	Not detected	0.005		mg/L	2	7440-39-3	
Lead	Not detected	0.003		mg/L	2	7439-92-1	
Selenium	Not detected	0.005		mg/L	2	7782-49-2	
Zinc	Not detected	0.005		mg/L	2	7440-66-6	

**Organics - Volatiles**

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 16:22, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	



# Analytical Laboratory Report

Lab Sample ID: S95705.13 (continued)

Sample Tag: Field Blank-1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 16:22, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.14

Sample Tag: OBG-OS-MW-5

Collected Date/Time: 10/17/2018 11:45

Matrix: Groundwater

COC Reference: 81844

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/24/18 13:50	JML	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	

**Metals**

**Method: E200.8, Run Date: 10/23/18 11:47, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	Not detected	0.002		mg/L	5	7440-38-2	
Barium	2.21	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

**Method: E200.8, Run Date: 10/23/18 12:16, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	2.06	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/24/18 14:45, Analyst: JML**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.14 (continued)

Sample Tag: OBG-OS-MW-5

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/24/18 14:45, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	8	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	1	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	4	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.15

Sample Tag: OBG-OS-MW-5 MS

Collected Date/Time: 10/17/2018 11:45

Matrix: Groundwater

COC Reference: 81844

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
4	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/24/18 13:50	JML	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	

**Metals**

**Method: E200.8, Run Date: 10/23/18 11:51, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.254	0.002		mg/L	5	7440-38-2	
Barium	2.43	0.005		mg/L	5	7440-39-3	
Lead	0.225	0.003		mg/L	5	7439-92-1	
Selenium	0.244	0.005		mg/L	5	7782-49-2	
Zinc	0.248	0.005		mg/L	5	7440-66-6	

**Method: E200.8, Run Date: 10/23/18 12:17, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.254	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	2.31	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	0.224	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	0.241	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	0.241	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/24/18 13:09, Analyst: JML**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	43	10		ug/L	1	60-29-7	1
Acetone	Not detected	50		ug/L	1	67-64-1	1
Methyl iodide	45	1		ug/L	1	74-88-4	1
Carbon disulfide	44	5		ug/L	1	75-15-0	1
tert-Methyl butyl ether (MTBE)	43	5		ug/L	1	1634-04-4	1
Acrylonitrile	43	2		ug/L	1	107-13-1	1
2-Butanone (MEK)	46	25		ug/L	1	78-93-3	1
Dichlorodifluoromethane	60	5		ug/L	1	75-71-8	1
Chloromethane	50	5		ug/L	1	74-87-3	1
Vinyl chloride	50	1		ug/L	1	75-01-4	1
Bromomethane	47	5		ug/L	1	74-83-9	1
Chloroethane	47	5		ug/L	1	75-00-3	1
Trichlorofluoromethane	37	1		ug/L	1	75-69-4	1
1,1-Dichloroethene	45	1		ug/L	1	75-35-4	1
Methylene chloride	43	5		ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	45	1		ug/L	1	156-60-5	1

1-spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S95705.15 (continued)

Sample Tag: OBG-OS-MW-5 MS

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/24/18 13:09, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1-Dichloroethane	45	1		ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	44	1		ug/L	1	156-59-2	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Chloroform	45	1		ug/L	1	67-66-3	1
Bromochloromethane	44	1		ug/L	1	74-97-5	1
1,1,1-Trichloroethane	46	1		ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	1
2-Hexanone	Not detected	50		ug/L	1	591-78-6	1
Carbon tetrachloride	47	1		ug/L	1	56-23-5	1
Benzene	45	1		ug/L	1	71-43-2	1
1,2-Dichloroethane	44	1		ug/L	1	107-06-2	1
Trichloroethene	45	1		ug/L	1	79-01-6	1
1,2-Dichloropropane	45	1		ug/L	1	78-87-5	1
Bromodichloromethane	45	1		ug/L	1	75-27-4	1
Dibromomethane	46	5		ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	45	1		ug/L	1	10061-01-5	1
Toluene	45	1		ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	45	1		ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	44	1		ug/L	1	79-00-5	1
Tetrachloroethene	35	1		ug/L	1	127-18-4	1
trans-1,4-Dichloro-2-butene	47	1		ug/L	1	110-57-6	1
Dibromochloromethane	45	5		ug/L	1	124-48-1	1
1,2-Dibromoethane	45	1		ug/L	1	106-93-4	1
Chlorobenzene	53	1		ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	46	1		ug/L	1	630-20-6	1
Ethylbenzene	46	1		ug/L	1	100-41-4	1
p,m-Xylene*	92	2		ug/L	1		1
o-Xylene	46	1		ug/L	1	95-47-6	1
Styrene	45	1		ug/L	1	100-42-5	1
Isopropylbenzene	48	5		ug/L	1	98-82-8	1
Bromoform	46	1		ug/L	1	75-25-2	1
1,1,2,2-Tetrachloroethane	47	1		ug/L	1	79-34-5	1
1,2,3-Trichloropropane	47	1		ug/L	1	96-18-4	1
n-Propylbenzene	48	1		ug/L	1	103-65-1	1
Bromobenzene	45	1		ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	46	1		ug/L	1	108-67-8	1
tert-Butylbenzene	47	1		ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	46	1		ug/L	1	95-63-6	1
sec-Butylbenzene	46	1		ug/L	1	135-98-8	1
p-Isopropyltoluene	46	5		ug/L	1	99-87-6	1
1,3-Dichlorobenzene	45	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	48	1		ug/L	1	106-46-7	1
1,2-Dichlorobenzene	44	1		ug/L	1	95-50-1	1
1,2,3-Trimethylbenzene	44	1		ug/L	1	526-73-8	1
n-Butylbenzene	45	1		ug/L	1	104-51-8	1
Hexachloroethane	45	5		ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	48	5		ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	46	5		ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	47	5		ug/L	1	87-61-6	1

1-spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S95705.15 (continued)

Sample Tag: OBG-OS-MW-5 MS

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/24/18 13:09, Analyst: JML (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Naphthalene	50	5		ug/L	1	91-20-3	1
2-Methylnaphthalene	60	5		ug/L	1	91-57-6	1

1-spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S95705.16

Sample Tag: OBG-OS-MW-5 MSD

Collected Date/Time: 10/17/2018 11:45

Matrix: Groundwater

COC Reference: 81844

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
4	40ml Glass	HCL	Yes	5.0	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/24/18 13:50	JML	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	

### Metals

Method: E200.8, Run Date: 10/23/18 11:52, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.261	0.002		mg/L	5	7440-38-2	
Barium	2.44	0.005		mg/L	5	7440-39-3	
Lead	0.224	0.003		mg/L	5	7439-92-1	
Selenium	0.248	0.005		mg/L	5	7782-49-2	
Zinc	0.248	0.005		mg/L	5	7440-66-6	

Method: E200.8, Run Date: 10/23/18 12:19, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.261	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	2.36	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	0.225	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	0.262	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	0.244	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/24/18 13:29, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	46	10		ug/L	1	60-29-7	1
Acetone	Not detected	50		ug/L	1	67-64-1	1
Methyl iodide	49	1		ug/L	1	74-88-4	1
Carbon disulfide	47	5		ug/L	1	75-15-0	1
tert-Methyl butyl ether (MTBE)	47	5		ug/L	1	1634-04-4	1
Acrylonitrile	45	2		ug/L	1	107-13-1	1
2-Butanone (MEK)	43	25		ug/L	1	78-93-3	1
Dichlorodifluoromethane	64	5		ug/L	1	75-71-8	1
Chloromethane	54	5		ug/L	1	74-87-3	1
Vinyl chloride	54	1		ug/L	1	75-01-4	1
Bromomethane	50	5		ug/L	1	74-83-9	1
Chloroethane	50	5		ug/L	1	75-00-3	1
Trichlorofluoromethane	40	1		ug/L	1	75-69-4	1
1,1-Dichloroethene	48	1		ug/L	1	75-35-4	1
Methylene chloride	47	5		ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	48	1		ug/L	1	156-60-5	1

1-spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S95705.16 (continued)

Sample Tag: OBG-OS-MW-5 MSD

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/24/18 13:29, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1-Dichloroethane	48	1		ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	48	1		ug/L	1	156-59-2	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Chloroform	49	1		ug/L	1	67-66-3	1
Bromochloromethane	48	1		ug/L	1	74-97-5	1
1,1,1-Trichloroethane	50	1		ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	50	50		ug/L	1	108-10-1	1
2-Hexanone	51	50		ug/L	1	591-78-6	1
Carbon tetrachloride	50	1		ug/L	1	56-23-5	1
Benzene	48	1		ug/L	1	71-43-2	1
1,2-Dichloroethane	47	1		ug/L	1	107-06-2	1
Trichloroethene	48	1		ug/L	1	79-01-6	1
1,2-Dichloropropane	48	1		ug/L	1	78-87-5	1
Bromodichloromethane	48	1		ug/L	1	75-27-4	1
Dibromomethane	48	5		ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	49	1		ug/L	1	10061-01-5	1
Toluene	49	1		ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	49	1		ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	48	1		ug/L	1	79-00-5	1
Tetrachloroethene	38	1		ug/L	1	127-18-4	1
trans-1,4-Dichloro-2-butene	49	1		ug/L	1	110-57-6	1
Dibromochloromethane	49	5		ug/L	1	124-48-1	1
1,2-Dibromoethane	48	1		ug/L	1	106-93-4	1
Chlorobenzene	58	1		ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	50	1		ug/L	1	630-20-6	1
Ethylbenzene	50	1		ug/L	1	100-41-4	1
p,m-Xylene*	99	2		ug/L	1		1
o-Xylene	50	1		ug/L	1	95-47-6	1
Styrene	50	1		ug/L	1	100-42-5	1
Isopropylbenzene	52	5		ug/L	1	98-82-8	1
Bromoform	50	1		ug/L	1	75-25-2	1
1,1,2,2-Tetrachloroethane	49	1		ug/L	1	79-34-5	1
1,2,3-Trichloropropane	49	1		ug/L	1	96-18-4	1
n-Propylbenzene	53	1		ug/L	1	103-65-1	1
Bromobenzene	50	1		ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	50	1		ug/L	1	108-67-8	1
tert-Butylbenzene	50	1		ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	51	1		ug/L	1	95-63-6	1
sec-Butylbenzene	49	1		ug/L	1	135-98-8	1
p-Isopropyltoluene	49	5		ug/L	1	99-87-6	1
1,3-Dichlorobenzene	48	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	52	1		ug/L	1	106-46-7	1
1,2-Dichlorobenzene	48	1		ug/L	1	95-50-1	1
1,2,3-Trimethylbenzene	48	1		ug/L	1	526-73-8	1
n-Butylbenzene	49	1		ug/L	1	104-51-8	1
Hexachloroethane	49	5		ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	49	5		ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	48	5		ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	48	5		ug/L	1	87-61-6	1

1-spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S95705.16 (continued)

Sample Tag: OBG-OS-MW-5 MSD

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/24/18 13:29, Analyst: JML (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Naphthalene	51	5		ug/L	1	91-20-3	1
2-Methylnaphthalene	59	5		ug/L	1	91-57-6	1

1-spiked at 50ug/L



# Analytical Laboratory Report

Lab Sample ID: S95705.17

Sample Tag: OBG-OS-MW-1

Collected Date/Time: 10/17/2018 13:35

Matrix: Groundwater

COC Reference: 81844

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/23/18 13:16	JML	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	

### Metals

Method: E200.8, Run Date: 10/23/18 12:02, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.034	0.002		mg/L	5	7440-38-2	
Barium	0.696	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

Method: E200.8, Run Date: 10/23/18 12:05, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.032	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.693	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 20:12, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.17 (continued)

Sample Tag: OBG-OS-MW-1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 20:12, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.18

Sample Tag: OBG-OS-MW-2

Collected Date/Time: 10/17/2018 14:20

Matrix: Groundwater

COC Reference: 81844

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/23/18 13:16	JML	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	

**Metals**

**Method: E200.8, Run Date: 10/23/18 12:07, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.055	0.002		mg/L	5	7440-38-2	
Barium	0.253	0.005		mg/L	5	7440-39-3	
Lead	0.008	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	0.016	0.005		mg/L	5	7440-66-6	

**Method: E200.8, Run Date: 10/23/18 12:09, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.052	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.246	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	0.005	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	0.012	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 20:31, Analyst: JML**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.18 (continued)

Sample Tag: OBG-OS-MW-2

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 20:31, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.19

Sample Tag: OBG MW-6S

Collected Date/Time: 10/17/2018 14:45

Matrix: Groundwater

COC Reference: 81844

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/23/18 13:16	JML	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	

**Metals**

**Method: E200.8, Run Date: 10/23/18 12:12, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.007	0.002		mg/L	5	7440-38-2	
Barium	0.165	0.005		mg/L	5	7440-39-3	
Lead	Not detected	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	Not detected	0.005		mg/L	5	7440-66-6	

**Method: E200.8, Run Date: 10/23/18 12:14, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.005	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.161	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	Not detected	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	Not detected	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 20:51, Analyst: JML**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	



# Analytical Laboratory Report

Lab Sample ID: S95705.19 (continued)

Sample Tag: OBG MW-6S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 20:51, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.20

Sample Tag: Equipment Blank-1

Collected Date/Time: 10/17/2018 14:50

Matrix: Water

COC Reference: 81844

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
3	40ml Glass	HCL	Yes	5.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	
Metal Digestion	Completed	SW3015A	10/23/18 10:00	CCM	

Metals

Method: E200.8, Run Date: 10/23/18 11:34, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	Not detected	0.002		mg/L	2	7440-38-2	
Barium	Not detected	0.005		mg/L	2	7440-39-3	
Lead	Not detected	0.003		mg/L	2	7439-92-1	
Selenium	Not detected	0.005		mg/L	2	7782-49-2	
Zinc	Not detected	0.005		mg/L	2	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 16:42, Analyst: JML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	



# Analytical Laboratory Report

Lab Sample ID: S95705.20 (continued)

Sample Tag: Equipment Blank-1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 16:42, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S95705.21

Sample Tag: Trip Blank-1

Collected Date/Time: 10/17/2018 00:01

Matrix: Water

COC Reference: 81844

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.0	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/22/18 13:20	JML	

### Organics - Volatiles

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 16:03, Analyst: JML**

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



# Analytical Laboratory Report

Lab Sample ID: S95705.21 (continued)

Sample Tag: Trip Blank-1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/22/18 16:03, Analyst: JML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

# Merit Laboratories Login Checklist

Lab Set ID:S95705

Client:OBG02 (O'Brien & Gere Engineers, Inc.)

Project: RACER Hemphill Rd SA

Submitted: 10/17/2018 15:55 Login User: MMC

Attention: Clifford Yantz

Address: O'Brien & Gere Engineers, Inc.  
2260 E Saginaw St  
East Lansing, MI 48823

Phone: 414-837-3607 FAX:

Email: Clifford.Yantz@obg.com

Selection	Description	Note
-----------	-------------	------

## Sample Receiving

- |     |  |  |
|-----|--|--|
| 01. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 5.0 |
| 02. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped  |
| 04. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |

## Chain of Custody

- |     |  |  |
|-----|--|--|
| 06. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                |
| 07. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab   |
| 08. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC          |
| 09. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to: |

## Preservation

- |     |  |   |
|-----|--|---|
| 10. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation        |
| 11. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs) |
| 12. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?    |

## Bottle Conditions

- |     |  |   |
|-----|--|---|
| 13. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                            |
| 14. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used       |
| 15. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                            |
| 16. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received             |
| 17. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration         |
| 18. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time         |
| 19. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Do water VOC or TOX bottles contain headspace |

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

Client Review By: \_\_\_\_\_ Date: \_\_\_\_\_

## Merit Laboratories Bottle Preservation Check

Lab Set ID: S95705      Initials: MMC  
 Client: OBG02 (O'Brien & Gere Engineers, Inc.)  
 Project: RACER Hemphill Rd SA  
 Submitted: 10/17/2018 15:55    Login User:

Attention: Clifford Yantz  
 Address: O'Brien & Gere Engineers, Inc.  
 2260 E Saginaw St  
 East Lansing, MI 48823

Phone: 414-837-3607      FAX:  
 Email: Clifford.Yantz@obg.com

Lab ID	125 ml Plastic HNO <sub>3</sub>	250 ml Plastic HNO <sub>3</sub>	1 L Plastic HNO <sub>3</sub>	250 ml Plastic H <sub>2</sub> SO <sub>4</sub>	125 ml Amber H <sub>2</sub> SO <sub>4</sub>	32 oz Glass HCl	125 ml Plastic NaOH	125 ml Amber PbCO <sub>3</sub> NaOH	pH					Notes	
									<2	>12	other	ml add	new pH		
S95705.01	X								X						
S95705.01	X								X						
S95705.02	X								X						
S95705.02	X								X						
S95705.03	X								X						
S95705.03	X								X						
S95705.04	X								X						
S95705.04	X								X						
S95705.05	X								X						
S95705.05	X								X						
S95705.06	X								X						
S95705.06	X								X						
S95705.07	X								X						
S95705.07	X								X						
S95705.08	X										4	0.6	<2	Lot# 192717	
S95705.08	X								X						
S95705.09	X								X						
S95705.09	X								X						
S95705.10	X										4	0.6	<2	Lot# 192717	
S95705.10	X								X						
S95705.11	X								X						
S95705.11	X								X						
S95705.12	X								X						
S95705.12	X								X						
S95705.13	X								X						
S95705.14	X								X						
S95705.14	X								X						
S95705.15	X								X						
S95705.15	X								X						

### Merit Laboratories Bottle Preservation Check

Lab Set ID: S95705      Initials: MMC

Client: OBG02 (O'Brien & Gere Engineers, Inc.)

Project: RACER Hemphill Rd SA

Submitted: 10/17/2018 15:55    Login User:

Attention: Clifford Yantz  
 Address: O'Brien & Gere Engineers, Inc.  
 2260 E Saginaw St  
 East Lansing, MI 48823

Phone: 414-837-3607      FAX:  
 Email: Clifford.Yantz@obg.com

Lab ID	125 ml Plastic HNO <sub>3</sub>	250 ml Plastic HNO <sub>3</sub>	1 L Plastic HNO <sub>3</sub>	250 ml Plastic H <sub>2</sub> SO <sub>4</sub>	125 ml Amber H <sub>2</sub> SO <sub>4</sub>	32 oz Glass HCl	125 ml Plastic NaOH	125 ml Amber PbCO <sub>3</sub> NaOH	pH					Notes	
									<2	>12	other	ml add	new pH		
S95705.16	X								X						
S95705.16	X								X						
S95705.17	X								X						
S95705.17	X								X						
S95705.18	X								X						
S95705.18	X								X						
S95705.19	X								X						
S95705.19	X								X						
S95705.20	X								X						



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

C.O.C. PAGE # 1 OF 2

111370

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME: Clifford Yantz  
 COMPANY: O'Brien + Gere  
 ADDRESS: 2260 East Saginaw  
 CITY: East Lansing STATE: MI ZIP CODE: 48823  
 PHONE NO.: 313-333-0211 FAX NO.: P.O. NO.: QUOTE NO.:  
 E-MAIL ADDRESS: clifford.yantz@obg.com

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 Hemphill Rd SA  
 SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schmidt  
 TURNAROUND TIME REQUIRED:  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER  
 DELIVERABLES REQUIRED:  STD  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER

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

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. FOR LAB USE ONLY	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	VOCs			Special Instructions
	DATE	TIME											TRIAL	As, Bi, Pb, Se, Zn	Disolved	
95705.01	10/15/18	1027	OBG MW-7S	GW	5		3	2					X	X	X	Dissolved metals were field filtered
.02		1228	OBG MW-7D										X	X	X	
.03		1335	OBG MW-1S										X	X	X	
.04		1335	OBG MW-1S Collocated										X	X	X	
.05	10/16/18	1227	OBG MW-6D										X	X	X	
.06		1328	OBG MW-2S										X	X	X	
.07		1442	OBG MW-2D										X	X	X	
.08		1557	OBG MW-5S										X	X	X	
.09		1717	OBG MW-3S										X	X	X	
.10			DUP-1										X	X	X	
.11	10/17/18	956	OBG-05-MW-3										X	X	X	
.12		1052	OBG-05-MW-4										X	X	X	

RELINQUISHED BY: [Signature] OBG Sampler DATE: 10/17/18 TIME: 1500  
 RECEIVED BY: [Signature] DATE: 10/17/18 TIME: 1510  
 RELINQUISHED BY: [Signature] DATE: 10/17/18 TIME: 1515  
 RECEIVED BY: [Signature] DATE: 10/17/18 TIME: 1535

RELINQUISHED BY: DATE: TIME:  
 RECEIVED BY: DATE: TIME:  
 SEAL NO. SEAL INTACT YES  NO  INITIALS  
 SEAL NO. SEAL INTACT YES  NO  INITIALS  
 NOTES: TEMP. ON ARRIVAL: 5.0

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





# Quality Control Report

Report ID: QC-S95705-01  
Generated on 11/05/2018

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
2260 E Saginaw St  
East Lansing, MI 48823

Phone: 414-837-3607 FAX:

Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

Report Summary

Lab Sample ID(s): S95705.01-S95705.21  
Project: RACER Hemphill Rd SA  
Submitted Date/Time: 10/17/2018 15:55  
Sampled by: Kevin Schneider  
P.O. #: 11700374

QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-22)  
Prep Batch Summary (Pages 23-27)  
Surrogates per Lab Sample (Pages 28-46)  
Surrogates per QC Sample (Pages 47-51)  
Batch QC Results (Pages 52-83)

Report Flag Descriptions

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

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

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S95705.01**

Sample Tag: OBG MW-7S

Collected Date/Time: 10/15/2018 10:27

Matrix: Groundwater

COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 10:27	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 10:23	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 10:27	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 10:23	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 10:27	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 10:23	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 10:27	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 10:23	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 10:27	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 10:23	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/18/18 19:51	181018A3	VF181018W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.02**

Sample Tag: OBG MW-7D

Collected Date/Time: 10/15/2018 12:28

Matrix: Groundwater

COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 10:31	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 10:29	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 10:31	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 10:29	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 10:31	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 10:29	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 10:31	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 10:29	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 10:31	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 10:29	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/18/18 20:11	181018A3	VF181018W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.03**

Sample Tag: OBG MW-1S

Collected Date/Time: 10/15/2018 13:35

Matrix: Groundwater

COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 10:36	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 10:34	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 10:36	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 10:34	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 10:36	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 10:34	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 10:36	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 10:34	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 10:36	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 10:34	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/18/18 20:31	181018A3	VF181018W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.04**

Sample Tag: OBG MW-1S Collocated  
 Collected Date/Time: 10/15/2018 13:35  
 Matrix: Groundwater  
 COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 10:41	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 10:38	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 10:41	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 10:38	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 10:41	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 10:38	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 10:41	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 10:38	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 10:41	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 10:38	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/21/18 01:44	181020A3	VF181020W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.05**

Sample Tag: OBG MW-6D

Collected Date/Time: 10/16/2018 12:27

Matrix: Groundwater

COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 10:45	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 10:43	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 10:45	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 10:43	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 10:45	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 10:43	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 10:45	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 10:43	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 10:45	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 10:43	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/23/18 15:58	181023A3	VF181023W2	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.06**

Sample Tag: OBG MW-2S

Collected Date/Time: 10/16/2018 13:28

Matrix: Groundwater

COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 10:56	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 10:53	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 10:56	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 10:53	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 10:56	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 10:53	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 10:56	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 10:53	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 10:56	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 10:53	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 17:58	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.07**

Sample Tag: OBG MW-2D

Collected Date/Time: 10/16/2018 14:42

Matrix: Groundwater

COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 11:00	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 10:58	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 11:00	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 10:58	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 11:00	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 10:58	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 11:00	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 10:58	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 11:00	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 10:58	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 18:17	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.08**

Sample Tag: OBG MW-5S

Collected Date/Time: 10/16/2018 15:57

Matrix: Groundwater

COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 11:05	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 11:03	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 11:05	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 11:03	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 11:05	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 11:03	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 11:05	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 11:03	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 11:05	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 11:03	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 18:36	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.09**

Sample Tag: OBG MW-3S

Collected Date/Time: 10/16/2018 17:17

Matrix: Groundwater

COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 11:09	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 11:07	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 11:09	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 11:07	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 11:09	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 11:07	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 11:09	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 11:07	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 11:09	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 11:07	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 18:56	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.10**

Sample Tag: DUP-1

Collected Date/Time: 10/16/2018 00:01

Matrix: Groundwater

COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 11:14	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 11:12	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 11:14	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 11:12	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 11:14	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 11:12	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 11:14	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 11:12	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 11:14	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 11:12	MT4-18-1023A	MTD-102318-1	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 19:15	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.11**

Sample Tag: OBG-OS-MW-3

Collected Date/Time: 10/17/2018 09:56

Matrix: Groundwater

COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 11:40	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 11:37	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 11:40	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 11:37	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 11:40	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 11:37	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 11:40	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 11:37	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 11:40	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 11:37	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 19:34	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.12**

Sample Tag: OBG-OS-MW-4

Collected Date/Time: 10/17/2018 10:52

Matrix: Groundwater

COC Reference: 111370

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 11:44	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 11:42	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 11:44	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 11:42	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 11:44	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 11:42	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 11:44	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 11:42	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 11:44	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 11:42	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 19:53	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

# QC Report - Analysis Summary

Lab Sample ID: S95705.13

Sample Tag: Field Blank-1

Collected Date/Time: 10/17/2018 11:30

Matrix: Water

COC Reference: 81844

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic	E200.8	10/23/18 11:33	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 11:33	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 11:33	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 11:33	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 11:33	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 16:22	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.14**

Sample Tag: OBG-OS-MW-5

Collected Date/Time: 10/17/2018 11:45

Matrix: Groundwater

COC Reference: 81844

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 12:16	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 11:47	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 12:16	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 11:47	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 12:16	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 11:47	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 12:16	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 11:47	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 12:16	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 11:47	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/24/18 14:45	181024A7	VF181024W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S95705.15**

Sample Tag: OBG-OS-MW-5 MS

Collected Date/Time: 10/17/2018 11:45

Matrix: Groundwater

COC Reference: 81844

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 12:17	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 11:51	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 12:17	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 11:51	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 12:17	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 11:51	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 12:17	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 11:51	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 12:17	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 11:51	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/24/18 13:09	181024A7	VF181024W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S95705.16**

Sample Tag: OBG-OS-MW-5 MSD

Collected Date/Time: 10/17/2018 11:45

Matrix: Groundwater

COC Reference: 81844

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 12:19	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 11:52	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 12:19	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 11:52	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 12:19	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 11:52	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 12:19	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 11:52	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 12:19	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 11:52	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/24/18 13:29	181024A7	VF181024W1	Yes	LCS/BLK/MS/MSD/LCS

## QC Report - Analysis Summary

**Lab Sample ID: S95705.17**

Sample Tag: OBG-OS-MW-1

Collected Date/Time: 10/17/2018 13:35

Matrix: Groundwater

COC Reference: 81844

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 12:05	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 12:02	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 12:05	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 12:02	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 12:05	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 12:02	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 12:05	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 12:02	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 12:05	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 12:02	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 20:12	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.18**

Sample Tag: OBG-OS-MW-2

Collected Date/Time: 10/17/2018 14:20

Matrix: Groundwater

COC Reference: 81844

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 12:09	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 12:07	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 12:09	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 12:07	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 12:09	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 12:07	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 12:09	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 12:07	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 12:09	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 12:07	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 20:31	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S95705.19**

Sample Tag: OBG MW-6S

Collected Date/Time: 10/17/2018 14:45

Matrix: Groundwater

COC Reference: 81844

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic, Dissolved	E200.8	10/23/18 12:14	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Arsenic	E200.8	10/23/18 12:12	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	E200.8	10/23/18 12:14	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 12:12	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	E200.8	10/23/18 12:14	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 12:12	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	E200.8	10/23/18 12:14	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 12:12	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	E200.8	10/23/18 12:14	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 12:12	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 20:51	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

# QC Report - Analysis Summary

Lab Sample ID: S95705.20

Sample Tag: Equipment Blank-1

Collected Date/Time: 10/17/2018 14:50

Matrix: Water

COC Reference: 81844

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Metals</b>						
Arsenic	E200.8	10/23/18 11:34	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Barium	E200.8	10/23/18 11:34	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Lead	E200.8	10/23/18 11:34	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Selenium	E200.8	10/23/18 11:34	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
Zinc	E200.8	10/23/18 11:34	MT4-18-1023A	MTD-102318-2	No	LCS/BLK/MS/MSD
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 16:42	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

# QC Report - Analysis Summary

Lab Sample ID: S95705.21

Sample Tag: Trip Blank-1

Collected Date/Time: 10/17/2018 00:01

Matrix: Water

COC Reference: 81844

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 16:03	181022A7	VF181022W1	Yes	LCS/BLK/LCSD

## QC Report - Prep Batch Summary

**Metals, Prep Batch ID: MTD-102318-1**

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S95705.01	Arsenic, Dissolved	E200.8	10/23/18 10:27	MT4-18-1023A
S95705.01	Arsenic	E200.8	10/23/18 10:23	MT4-18-1023A
S95705.01	Barium, Dissolved	E200.8	10/23/18 10:27	MT4-18-1023A
S95705.01	Barium	E200.8	10/23/18 10:23	MT4-18-1023A
S95705.01	Lead, Dissolved	E200.8	10/23/18 10:27	MT4-18-1023A
S95705.01	Lead	E200.8	10/23/18 10:23	MT4-18-1023A
S95705.01	Selenium, Dissolved	E200.8	10/23/18 10:27	MT4-18-1023A
S95705.01	Selenium	E200.8	10/23/18 10:23	MT4-18-1023A
S95705.01	Zinc, Dissolved	E200.8	10/23/18 10:27	MT4-18-1023A
S95705.01	Zinc	E200.8	10/23/18 10:23	MT4-18-1023A
S95705.02	Arsenic, Dissolved	E200.8	10/23/18 10:31	MT4-18-1023A
S95705.02	Arsenic	E200.8	10/23/18 10:29	MT4-18-1023A
S95705.02	Barium, Dissolved	E200.8	10/23/18 10:31	MT4-18-1023A
S95705.02	Barium	E200.8	10/23/18 10:29	MT4-18-1023A
S95705.02	Lead, Dissolved	E200.8	10/23/18 10:31	MT4-18-1023A
S95705.02	Lead	E200.8	10/23/18 10:29	MT4-18-1023A
S95705.02	Selenium, Dissolved	E200.8	10/23/18 10:31	MT4-18-1023A
S95705.02	Selenium	E200.8	10/23/18 10:29	MT4-18-1023A
S95705.02	Zinc, Dissolved	E200.8	10/23/18 10:31	MT4-18-1023A
S95705.02	Zinc	E200.8	10/23/18 10:29	MT4-18-1023A
S95705.03	Arsenic, Dissolved	E200.8	10/23/18 10:36	MT4-18-1023A
S95705.03	Arsenic	E200.8	10/23/18 10:34	MT4-18-1023A
S95705.03	Barium, Dissolved	E200.8	10/23/18 10:36	MT4-18-1023A
S95705.03	Barium	E200.8	10/23/18 10:34	MT4-18-1023A
S95705.03	Lead, Dissolved	E200.8	10/23/18 10:36	MT4-18-1023A
S95705.03	Lead	E200.8	10/23/18 10:34	MT4-18-1023A
S95705.03	Selenium, Dissolved	E200.8	10/23/18 10:36	MT4-18-1023A
S95705.03	Selenium	E200.8	10/23/18 10:34	MT4-18-1023A
S95705.03	Zinc, Dissolved	E200.8	10/23/18 10:36	MT4-18-1023A
S95705.03	Zinc	E200.8	10/23/18 10:34	MT4-18-1023A
S95705.04	Arsenic, Dissolved	E200.8	10/23/18 10:41	MT4-18-1023A
S95705.04	Arsenic	E200.8	10/23/18 10:38	MT4-18-1023A
S95705.04	Barium, Dissolved	E200.8	10/23/18 10:41	MT4-18-1023A
S95705.04	Barium	E200.8	10/23/18 10:38	MT4-18-1023A
S95705.04	Lead, Dissolved	E200.8	10/23/18 10:41	MT4-18-1023A
S95705.04	Lead	E200.8	10/23/18 10:38	MT4-18-1023A
S95705.04	Selenium, Dissolved	E200.8	10/23/18 10:41	MT4-18-1023A
S95705.04	Selenium	E200.8	10/23/18 10:38	MT4-18-1023A
S95705.04	Zinc, Dissolved	E200.8	10/23/18 10:41	MT4-18-1023A
S95705.04	Zinc	E200.8	10/23/18 10:38	MT4-18-1023A
S95705.05	Arsenic, Dissolved	E200.8	10/23/18 10:45	MT4-18-1023A
S95705.05	Arsenic	E200.8	10/23/18 10:43	MT4-18-1023A
S95705.05	Barium, Dissolved	E200.8	10/23/18 10:45	MT4-18-1023A
S95705.05	Barium	E200.8	10/23/18 10:43	MT4-18-1023A
S95705.05	Lead, Dissolved	E200.8	10/23/18 10:45	MT4-18-1023A
S95705.05	Lead	E200.8	10/23/18 10:43	MT4-18-1023A
S95705.05	Selenium, Dissolved	E200.8	10/23/18 10:45	MT4-18-1023A
S95705.05	Selenium	E200.8	10/23/18 10:43	MT4-18-1023A
S95705.05	Zinc, Dissolved	E200.8	10/23/18 10:45	MT4-18-1023A
S95705.05	Zinc	E200.8	10/23/18 10:43	MT4-18-1023A

## QC Report - Prep Batch Summary

**Metals, Prep Batch ID: MTD-102318-1 (continued)**

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S95705.06	Arsenic, Dissolved	E200.8	10/23/18 10:56	MT4-18-1023A
S95705.06	Arsenic	E200.8	10/23/18 10:53	MT4-18-1023A
S95705.06	Barium, Dissolved	E200.8	10/23/18 10:56	MT4-18-1023A
S95705.06	Barium	E200.8	10/23/18 10:53	MT4-18-1023A
S95705.06	Lead, Dissolved	E200.8	10/23/18 10:56	MT4-18-1023A
S95705.06	Lead	E200.8	10/23/18 10:53	MT4-18-1023A
S95705.06	Selenium, Dissolved	E200.8	10/23/18 10:56	MT4-18-1023A
S95705.06	Selenium	E200.8	10/23/18 10:53	MT4-18-1023A
S95705.06	Zinc, Dissolved	E200.8	10/23/18 10:56	MT4-18-1023A
S95705.06	Zinc	E200.8	10/23/18 10:53	MT4-18-1023A
S95705.07	Arsenic, Dissolved	E200.8	10/23/18 11:00	MT4-18-1023A
S95705.07	Arsenic	E200.8	10/23/18 10:58	MT4-18-1023A
S95705.07	Barium, Dissolved	E200.8	10/23/18 11:00	MT4-18-1023A
S95705.07	Barium	E200.8	10/23/18 10:58	MT4-18-1023A
S95705.07	Lead, Dissolved	E200.8	10/23/18 11:00	MT4-18-1023A
S95705.07	Lead	E200.8	10/23/18 10:58	MT4-18-1023A
S95705.07	Selenium, Dissolved	E200.8	10/23/18 11:00	MT4-18-1023A
S95705.07	Selenium	E200.8	10/23/18 10:58	MT4-18-1023A
S95705.07	Zinc, Dissolved	E200.8	10/23/18 11:00	MT4-18-1023A
S95705.07	Zinc	E200.8	10/23/18 10:58	MT4-18-1023A
S95705.08	Arsenic, Dissolved	E200.8	10/23/18 11:05	MT4-18-1023A
S95705.08	Arsenic	E200.8	10/23/18 11:03	MT4-18-1023A
S95705.08	Barium, Dissolved	E200.8	10/23/18 11:05	MT4-18-1023A
S95705.08	Barium	E200.8	10/23/18 11:03	MT4-18-1023A
S95705.08	Lead, Dissolved	E200.8	10/23/18 11:05	MT4-18-1023A
S95705.08	Lead	E200.8	10/23/18 11:03	MT4-18-1023A
S95705.08	Selenium, Dissolved	E200.8	10/23/18 11:05	MT4-18-1023A
S95705.08	Selenium	E200.8	10/23/18 11:03	MT4-18-1023A
S95705.08	Zinc, Dissolved	E200.8	10/23/18 11:05	MT4-18-1023A
S95705.08	Zinc	E200.8	10/23/18 11:03	MT4-18-1023A
S95705.09	Arsenic, Dissolved	E200.8	10/23/18 11:09	MT4-18-1023A
S95705.09	Arsenic	E200.8	10/23/18 11:07	MT4-18-1023A
S95705.09	Barium, Dissolved	E200.8	10/23/18 11:09	MT4-18-1023A
S95705.09	Barium	E200.8	10/23/18 11:07	MT4-18-1023A
S95705.09	Lead, Dissolved	E200.8	10/23/18 11:09	MT4-18-1023A
S95705.09	Lead	E200.8	10/23/18 11:07	MT4-18-1023A
S95705.09	Selenium, Dissolved	E200.8	10/23/18 11:09	MT4-18-1023A
S95705.09	Selenium	E200.8	10/23/18 11:07	MT4-18-1023A
S95705.09	Zinc, Dissolved	E200.8	10/23/18 11:09	MT4-18-1023A
S95705.09	Zinc	E200.8	10/23/18 11:07	MT4-18-1023A
S95705.10	Arsenic, Dissolved	E200.8	10/23/18 11:14	MT4-18-1023A
S95705.10	Arsenic	E200.8	10/23/18 11:12	MT4-18-1023A
S95705.10	Barium, Dissolved	E200.8	10/23/18 11:14	MT4-18-1023A
S95705.10	Barium	E200.8	10/23/18 11:12	MT4-18-1023A
S95705.10	Lead, Dissolved	E200.8	10/23/18 11:14	MT4-18-1023A
S95705.10	Lead	E200.8	10/23/18 11:12	MT4-18-1023A
S95705.10	Selenium, Dissolved	E200.8	10/23/18 11:14	MT4-18-1023A
S95705.10	Selenium	E200.8	10/23/18 11:12	MT4-18-1023A
S95705.10	Zinc, Dissolved	E200.8	10/23/18 11:14	MT4-18-1023A

## QC Report - Prep Batch Summary

**Metals, Prep Batch ID: MTD-102318-1 (continued)**

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S95705.10	Zinc	E200.8	10/23/18 11:12	MT4-18-1023A

**Metals, Prep Batch ID: MTD-102318-2**

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S95705.11	Arsenic, Dissolved	E200.8	10/23/18 11:40	MT4-18-1023A
S95705.11	Arsenic	E200.8	10/23/18 11:37	MT4-18-1023A
S95705.11	Barium, Dissolved	E200.8	10/23/18 11:40	MT4-18-1023A
S95705.11	Barium	E200.8	10/23/18 11:37	MT4-18-1023A
S95705.11	Lead, Dissolved	E200.8	10/23/18 11:40	MT4-18-1023A
S95705.11	Lead	E200.8	10/23/18 11:37	MT4-18-1023A
S95705.11	Selenium, Dissolved	E200.8	10/23/18 11:40	MT4-18-1023A
S95705.11	Selenium	E200.8	10/23/18 11:37	MT4-18-1023A
S95705.11	Zinc, Dissolved	E200.8	10/23/18 11:40	MT4-18-1023A
S95705.11	Zinc	E200.8	10/23/18 11:37	MT4-18-1023A
S95705.12	Arsenic, Dissolved	E200.8	10/23/18 11:44	MT4-18-1023A
S95705.12	Arsenic	E200.8	10/23/18 11:42	MT4-18-1023A
S95705.12	Barium, Dissolved	E200.8	10/23/18 11:44	MT4-18-1023A
S95705.12	Barium	E200.8	10/23/18 11:42	MT4-18-1023A
S95705.12	Lead, Dissolved	E200.8	10/23/18 11:44	MT4-18-1023A
S95705.12	Lead	E200.8	10/23/18 11:42	MT4-18-1023A
S95705.12	Selenium, Dissolved	E200.8	10/23/18 11:44	MT4-18-1023A
S95705.12	Selenium	E200.8	10/23/18 11:42	MT4-18-1023A
S95705.12	Zinc, Dissolved	E200.8	10/23/18 11:44	MT4-18-1023A
S95705.12	Zinc	E200.8	10/23/18 11:42	MT4-18-1023A
S95705.13	Arsenic	E200.8	10/23/18 11:33	MT4-18-1023A
S95705.13	Barium	E200.8	10/23/18 11:33	MT4-18-1023A
S95705.13	Lead	E200.8	10/23/18 11:33	MT4-18-1023A
S95705.13	Selenium	E200.8	10/23/18 11:33	MT4-18-1023A
S95705.13	Zinc	E200.8	10/23/18 11:33	MT4-18-1023A
S95705.14	Arsenic, Dissolved	E200.8	10/23/18 12:16	MT4-18-1023A
S95705.14	Arsenic	E200.8	10/23/18 11:47	MT4-18-1023A
S95705.14	Barium, Dissolved	E200.8	10/23/18 12:16	MT4-18-1023A
S95705.14	Barium	E200.8	10/23/18 11:47	MT4-18-1023A
S95705.14	Lead, Dissolved	E200.8	10/23/18 12:16	MT4-18-1023A
S95705.14	Lead	E200.8	10/23/18 11:47	MT4-18-1023A
S95705.14	Selenium, Dissolved	E200.8	10/23/18 12:16	MT4-18-1023A
S95705.14	Selenium	E200.8	10/23/18 11:47	MT4-18-1023A
S95705.14	Zinc, Dissolved	E200.8	10/23/18 12:16	MT4-18-1023A
S95705.14	Zinc	E200.8	10/23/18 11:47	MT4-18-1023A
S95705.15	Arsenic, Dissolved	E200.8	10/23/18 12:17	MT4-18-1023A
S95705.15	Arsenic	E200.8	10/23/18 11:51	MT4-18-1023A
S95705.15	Barium, Dissolved	E200.8	10/23/18 12:17	MT4-18-1023A
S95705.15	Barium	E200.8	10/23/18 11:51	MT4-18-1023A
S95705.15	Lead, Dissolved	E200.8	10/23/18 12:17	MT4-18-1023A
S95705.15	Lead	E200.8	10/23/18 11:51	MT4-18-1023A
S95705.15	Selenium, Dissolved	E200.8	10/23/18 12:17	MT4-18-1023A
S95705.15	Selenium	E200.8	10/23/18 11:51	MT4-18-1023A
S95705.15	Zinc, Dissolved	E200.8	10/23/18 12:17	MT4-18-1023A

## QC Report - Prep Batch Summary

**Metals, Prep Batch ID: MTD-102318-2 (continued)**

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S95705.15	Zinc	E200.8	10/23/18 11:51	MT4-18-1023A
S95705.16	Arsenic, Dissolved	E200.8	10/23/18 12:19	MT4-18-1023A
S95705.16	Arsenic	E200.8	10/23/18 11:52	MT4-18-1023A
S95705.16	Barium, Dissolved	E200.8	10/23/18 12:19	MT4-18-1023A
S95705.16	Barium	E200.8	10/23/18 11:52	MT4-18-1023A
S95705.16	Lead, Dissolved	E200.8	10/23/18 12:19	MT4-18-1023A
S95705.16	Lead	E200.8	10/23/18 11:52	MT4-18-1023A
S95705.16	Selenium, Dissolved	E200.8	10/23/18 12:19	MT4-18-1023A
S95705.16	Selenium	E200.8	10/23/18 11:52	MT4-18-1023A
S95705.16	Zinc, Dissolved	E200.8	10/23/18 12:19	MT4-18-1023A
S95705.16	Zinc	E200.8	10/23/18 11:52	MT4-18-1023A
S95705.17	Arsenic, Dissolved	E200.8	10/23/18 12:05	MT4-18-1023A
S95705.17	Arsenic	E200.8	10/23/18 12:02	MT4-18-1023A
S95705.17	Barium, Dissolved	E200.8	10/23/18 12:05	MT4-18-1023A
S95705.17	Barium	E200.8	10/23/18 12:02	MT4-18-1023A
S95705.17	Lead, Dissolved	E200.8	10/23/18 12:05	MT4-18-1023A
S95705.17	Lead	E200.8	10/23/18 12:02	MT4-18-1023A
S95705.17	Selenium, Dissolved	E200.8	10/23/18 12:05	MT4-18-1023A
S95705.17	Selenium	E200.8	10/23/18 12:02	MT4-18-1023A
S95705.17	Zinc, Dissolved	E200.8	10/23/18 12:05	MT4-18-1023A
S95705.17	Zinc	E200.8	10/23/18 12:02	MT4-18-1023A
S95705.18	Arsenic, Dissolved	E200.8	10/23/18 12:09	MT4-18-1023A
S95705.18	Arsenic	E200.8	10/23/18 12:07	MT4-18-1023A
S95705.18	Barium, Dissolved	E200.8	10/23/18 12:09	MT4-18-1023A
S95705.18	Barium	E200.8	10/23/18 12:07	MT4-18-1023A
S95705.18	Lead, Dissolved	E200.8	10/23/18 12:09	MT4-18-1023A
S95705.18	Lead	E200.8	10/23/18 12:07	MT4-18-1023A
S95705.18	Selenium, Dissolved	E200.8	10/23/18 12:09	MT4-18-1023A
S95705.18	Selenium	E200.8	10/23/18 12:07	MT4-18-1023A
S95705.18	Zinc, Dissolved	E200.8	10/23/18 12:09	MT4-18-1023A
S95705.18	Zinc	E200.8	10/23/18 12:07	MT4-18-1023A
S95705.19	Arsenic, Dissolved	E200.8	10/23/18 12:14	MT4-18-1023A
S95705.19	Arsenic	E200.8	10/23/18 12:12	MT4-18-1023A
S95705.19	Barium, Dissolved	E200.8	10/23/18 12:14	MT4-18-1023A
S95705.19	Barium	E200.8	10/23/18 12:12	MT4-18-1023A
S95705.19	Lead, Dissolved	E200.8	10/23/18 12:14	MT4-18-1023A
S95705.19	Lead	E200.8	10/23/18 12:12	MT4-18-1023A
S95705.19	Selenium, Dissolved	E200.8	10/23/18 12:14	MT4-18-1023A
S95705.19	Selenium	E200.8	10/23/18 12:12	MT4-18-1023A
S95705.19	Zinc, Dissolved	E200.8	10/23/18 12:14	MT4-18-1023A
S95705.19	Zinc	E200.8	10/23/18 12:12	MT4-18-1023A
S95705.20	Arsenic	E200.8	10/23/18 11:34	MT4-18-1023A
S95705.20	Barium	E200.8	10/23/18 11:34	MT4-18-1023A
S95705.20	Lead	E200.8	10/23/18 11:34	MT4-18-1023A
S95705.20	Selenium	E200.8	10/23/18 11:34	MT4-18-1023A
S95705.20	Zinc	E200.8	10/23/18 11:34	MT4-18-1023A

# QC Report - Prep Batch Summary

## Organics - Volatiles, Prep Batch ID: VF181018W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S95705.01	Volatile Organics - DEQ List	SW5030C/8260C	10/18/18 19:51	181018A3
S95705.02	Volatile Organics - DEQ List	SW5030C/8260C	10/18/18 20:11	181018A3
S95705.03	Volatile Organics - DEQ List	SW5030C/8260C	10/18/18 20:31	181018A3

## Organics - Volatiles, Prep Batch ID: VF181020W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S95705.04	Volatile Organics - DEQ List	SW5030C/8260C	10/21/18 01:44	181020A3

## Organics - Volatiles, Prep Batch ID: VF181022W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S95705.06	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 17:58	181022A7
S95705.07	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 18:17	181022A7
S95705.08	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 18:36	181022A7
S95705.09	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 18:56	181022A7
S95705.10	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 19:15	181022A7
S95705.11	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 19:34	181022A7
S95705.12	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 19:53	181022A7
S95705.13	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 16:22	181022A7
S95705.17	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 20:12	181022A7
S95705.18	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 20:31	181022A7
S95705.19	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 20:51	181022A7
S95705.20	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 16:42	181022A7
S95705.21	Volatile Organics - DEQ List	SW5030C/8260C	10/22/18 16:03	181022A7

## Organics - Volatiles, Prep Batch ID: VF181023W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S95705.05	Volatile Organics - DEQ List	SW5030C/8260C	10/23/18 15:58	181023A3

## Organics - Volatiles, Prep Batch ID: VF181024W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S95705.14	Volatile Organics - DEQ List	SW5030C/8260C	10/24/18 14:45	181024A7
S95705.15	Volatile Organics - DEQ List	SW5030C/8260C	10/24/18 13:09	181024A7
S95705.16	Volatile Organics - DEQ List	SW5030C/8260C	10/24/18 13:29	181024A7

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.01

Sample Tag: OBG MW-7S

Collected Date/Time: 10/15/2018 10:27

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181018A3, Run Date: 10/18/2018 19:51, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.0	80.0	124.0
1,2-Dichloroethane-D4		103.0	72.0	125.0
Toluene-D8		101.2	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.02

Sample Tag: OBG MW-7D

Collected Date/Time: 10/15/2018 12:28

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181018A3, Run Date: 10/18/2018 20:11, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.8	80.0	124.0
1,2-Dichloroethane-D4		100.8	72.0	125.0
Toluene-D8		101.0	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.03

Sample Tag: OBG MW-1S

Collected Date/Time: 10/15/2018 13:35

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181018A3, Run Date: 10/18/2018 20:31, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.0	80.0	124.0
1,2-Dichloroethane-D4		103.6	72.0	125.0
Toluene-D8		96.4	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.04

Sample Tag: OBG MW-1S Collocated

Collected Date/Time: 10/15/2018 13:35

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181020A3, Run Date: 10/21/2018 01:44, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.2	80.0	124.0
1,2-Dichloroethane-D4		103.6	72.0	125.0
Toluene-D8		103.0	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.05

Sample Tag: OBG MW-6D

Collected Date/Time: 10/16/2018 12:27

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181023A3, Run Date: 10/23/2018 15:58, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.6	80.0	124.0
1,2-Dichloroethane-D4		100.8	72.0	125.0
Toluene-D8		98.6	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.06

Sample Tag: OBG MW-2S

Collected Date/Time: 10/16/2018 13:28

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 17:58, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.4	80.0	124.0
1,2-Dichloroethane-D4		103.0	72.0	125.0
Toluene-D8		98.4	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.07

Sample Tag: OBG MW-2D

Collected Date/Time: 10/16/2018 14:42

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 18:17, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.6	80.0	124.0
1,2-Dichloroethane-D4		99.2	72.0	125.0
Toluene-D8		98.8	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.08

Sample Tag: OBG MW-5S

Collected Date/Time: 10/16/2018 15:57

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 18:36, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.8	80.0	124.0
1,2-Dichloroethane-D4		100.4	72.0	125.0
Toluene-D8		99.0	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.09

Sample Tag: OBG MW-3S

Collected Date/Time: 10/16/2018 17:17

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 18:56, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.2	80.0	124.0
1,2-Dichloroethane-D4		99.2	72.0	125.0
Toluene-D8		97.8	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.10

Sample Tag: DUP-1

Collected Date/Time: 10/16/2018 00:01

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 19:15, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.2	80.0	124.0
1,2-Dichloroethane-D4		100.2	72.0	125.0
Toluene-D8		99.0	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.11

Sample Tag: OBG-OS-MW-3

Collected Date/Time: 10/17/2018 09:56

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 19:34, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.8	80.0	124.0
1,2-Dichloroethane-D4		97.2	72.0	125.0
Toluene-D8		100.4	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.12

Sample Tag: OBG-OS-MW-4

Collected Date/Time: 10/17/2018 10:52

Matrix: Groundwater

COC Reference: 111370

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 19:53, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.2	80.0	124.0
1,2-Dichloroethane-D4		97.0	72.0	125.0
Toluene-D8		100.6	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.13

Sample Tag: Field Blank-1

Collected Date/Time: 10/17/2018 11:30

Matrix: Water

COC Reference: 81844

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 16:22, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.2	80.0	124.0
1,2-Dichloroethane-D4		99.0	72.0	125.0
Toluene-D8		97.2	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.14

Sample Tag: OBG-OS-MW-5

Collected Date/Time: 10/17/2018 11:45

Matrix: Groundwater

COC Reference: 81844

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181024A7, Run Date: 10/24/2018 14:45, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.0	80.0	124.0
1,2-Dichloroethane-D4		97.0	72.0	125.0
Toluene-D8		98.4	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.17

Sample Tag: OBG-OS-MW-1

Collected Date/Time: 10/17/2018 13:35

Matrix: Groundwater

COC Reference: 81844

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 20:12, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>102.4</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>97.6</b>	72.0	125.0
Toluene-D8		<b>101.6</b>	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.18

Sample Tag: OBG-OS-MW-2

Collected Date/Time: 10/17/2018 14:20

Matrix: Groundwater

COC Reference: 81844

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 20:31, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.4	80.0	124.0
1,2-Dichloroethane-D4		97.0	72.0	125.0
Toluene-D8		99.8	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.19

Sample Tag: OBG MW-6S

Collected Date/Time: 10/17/2018 14:45

Matrix: Groundwater

COC Reference: 81844

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 20:51, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.6	80.0	124.0
1,2-Dichloroethane-D4		98.8	72.0	125.0
Toluene-D8		98.2	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.20

Sample Tag: Equipment Blank-1

Collected Date/Time: 10/17/2018 14:50

Matrix: Water

COC Reference: 81844

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 16:42, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.6	80.0	124.0
1,2-Dichloroethane-D4		99.2	72.0	125.0
Toluene-D8		97.6	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S95705.21

Sample Tag: Trip Blank-1

Collected Date/Time: 10/17/2018 00:01

Matrix: Water

COC Reference: 81844

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 181022A7, Run Date: 10/22/2018 16:03, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.0	80.0	124.0
1,2-Dichloroethane-D4		98.2	72.0	125.0
Toluene-D8		100.4	89.0	112.0

# QC Report - Surrogates per QC Sample

## Organics - Volatiles, Prep Batch ID: VF181018W1

QC Types: LCS/BLK/LCSD

### Laboratory Control Sample (LCS)

Lab Sample ID: 181018A3.LCSW18A

Run in Batch: 181018A3, Run Date: 10/18/2018 11:26, Prep Date: 10/18/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.2	80.0	124.0
1,2-Dichloroethane-D4		99.0	72.0	125.0
Toluene-D8		101.2	89.0	112.0

### Blank (BLK)

Lab Sample ID: 181018A3.BLKW18A

Run in Batch: 181018A3, Run Date: 10/18/2018 13:28, Prep Date: 10/18/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		96.0	80.0	124.0
1,2-Dichloroethane-D4		101.8	72.0	125.0
Toluene-D8		100.8	89.0	112.0

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 181018A3.LCSDW18A, Parent Sample ID: 181018A3.LCSW18A

Run in Batch: 181018A3, Run Date: 10/18/2018 11:47, Prep Date: 10/18/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.4	80.0	124.0
1,2-Dichloroethane-D4		100.0	72.0	125.0
Toluene-D8		103.0	89.0	112.0

# QC Report - Surrogates per QC Sample

## Organics - Volatiles, Prep Batch ID: VF181020W1

QC Types: LCS/BLK/LCSD

### Laboratory Control Sample (LCS)

Lab Sample ID: 181020A3.LCSW20A

Run in Batch: 181020A3, Run Date: 10/20/2018 20:43, Prep Date: 10/20/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>104.6</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>99.0</b>	72.0	125.0
Toluene-D8		<b>102.0</b>	89.0	112.0

### Blank (BLK)

Lab Sample ID: 181020A3.BLKW20A

Run in Batch: 181020A3, Run Date: 10/20/2018 22:23, Prep Date: 10/20/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>102.8</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>101.4</b>	72.0	125.0
Toluene-D8		<b>102.0</b>	89.0	112.0

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 181020A3.LCSDW20A, Parent Sample ID: 181020A3.LCSW20A

Run in Batch: 181020A3, Run Date: 10/20/2018 21:03, Prep Date: 10/20/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>101.2</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>106.4</b>	72.0	125.0
Toluene-D8		<b>100.8</b>	89.0	112.0

# QC Report - Surrogates per QC Sample

## Organics - Volatiles, Prep Batch ID: VF181022W1

QC Types: LCS/BLK/LCSD

### Laboratory Control Sample (LCS)

Lab Sample ID: 181022A7.LCSW22A

Run in Batch: 181022A7, Run Date: 10/22/2018 14:00, Prep Date: 10/22/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.0	80.0	124.0
1,2-Dichloroethane-D4		99.4	72.0	125.0
Toluene-D8		99.6	89.0	112.0

### Blank (BLK)

Lab Sample ID: 181022A7.BLKW22A

Run in Batch: 181022A7, Run Date: 10/22/2018 15:16, Prep Date: 10/22/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.8	80.0	124.0
1,2-Dichloroethane-D4		99.6	72.0	125.0
Toluene-D8		99.8	89.0	112.0

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 181022A7.LCSDW22A, Parent Sample ID: 181022A7.LCSW22A

Run in Batch: 181022A7, Run Date: 10/22/2018 14:19, Prep Date: 10/22/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.4	80.0	124.0
1,2-Dichloroethane-D4		97.4	72.0	125.0
Toluene-D8		98.8	89.0	112.0

# QC Report - Surrogates per QC Sample

## Organics - Volatiles, Prep Batch ID: VF181023W2

QC Types: LCS/BLK/LCSD

### Laboratory Control Sample (LCS)

Lab Sample ID: 181023A3.LCSW23A

Run in Batch: 181023A3, Run Date: 10/23/2018 13:55, Prep Date: 10/23/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>102.0</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>103.8</b>	72.0	125.0
Toluene-D8		<b>102.0</b>	89.0	112.0

### Blank (BLK)

Lab Sample ID: 181023A3.BLKW23A

Run in Batch: 181023A3, Run Date: 10/23/2018 15:15, Prep Date: 10/23/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>93.2</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>101.8</b>	72.0	125.0
Toluene-D8		<b>99.0</b>	89.0	112.0

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 181023A3.LCSDW23A, Parent Sample ID: 181023A3.LCSW23A

Run in Batch: 181023A3, Run Date: 10/23/2018 14:15, Prep Date: 10/23/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>95.2</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>102.0</b>	72.0	125.0
Toluene-D8		<b>101.8</b>	89.0	112.0

# QC Report - Surrogates per QC Sample

## Organics - Volatiles, Prep Batch ID: VF181024W1

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

### Laboratory Control Sample (LCS)

Lab Sample ID: 181024A7.LCSW24A

Run in Batch: 181024A7, Run Date: 10/24/2018 12:31, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.8	80.0	124.0
1,2-Dichloroethane-D4		97.6	72.0	125.0
Toluene-D8		99.4	89.0	112.0

### Blank (BLK)

Lab Sample ID: 181024A7.BLKW24A

Run in Batch: 181024A7, Run Date: 10/24/2018 14:26, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.8	80.0	124.0
1,2-Dichloroethane-D4		97.2	72.0	125.0
Toluene-D8		99.2	89.0	112.0

### Matrix Spike (MS)

Lab Sample ID: 181024A7.9570515M, Parent Sample ID: S95705.14

Run in Batch: 181024A7, Run Date: 10/24/2018 13:09, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.2	80.0	124.0
1,2-Dichloroethane-D4		96.0	72.0	125.0
Toluene-D8		101.2	89.0	112.0

### Matrix Spike Duplicate (MSD)

Lab Sample ID: 181024A7.9570516N, Parent Sample ID: 181024A7.9570515M

Run in Batch: 181024A7, Run Date: 10/24/2018 13:29, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.0	80.0	124.0
1,2-Dichloroethane-D4		96.8	72.0	125.0
Toluene-D8		99.8	89.0	112.0

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 181024A7.LCSDW24A, Parent Sample ID: 181024A7.LCSW24A

Run in Batch: 181024A7, Run Date: 10/24/2018 12:50, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.6	80.0	124.0
1,2-Dichloroethane-D4		96.4	72.0	125.0
Toluene-D8		100.4	89.0	112.0

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-102318-1

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

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-18-1023A.019.LCS

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 10:17, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		101	85	115
Barium		100	85	115
Lead		98	85	115
Selenium		102	85	115
Zinc		102	85	115

#### Blank (BLK)

Lab Sample ID: MT4-18-1023A.021.LRB

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 10:20, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 1

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

#### Matrix Spike (MS)

Lab Sample ID: MT4-18-1023A.042.MS, Parent Sample ID: S95705.05

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 10:47, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		105	75	125
Barium		97	75	125
Lead		94	75	125
Selenium		104	75	125
Zinc		103	75	125

#### Matrix Spike (MS)

Lab Sample ID: MT4-18-1023A.066.MS, Parent Sample ID: S95705.10

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 11:20, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		100	75	125
Barium		92	75	125
Lead		89	75	125
Selenium		96	75	125
Zinc		99	75	125

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-18-1023A.043.MSD, Parent Sample ID: MT4-18-1023A.042.MS

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 10:48, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		103	75	125	2	20
Barium		99	75	125	2	20
Lead		90	75	125	5	20
Selenium		104	75	125	0	20
Zinc		102	75	125	1	20

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-102318-1 (continued)

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

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-18-1023A.067.MSD, Parent Sample ID: MT4-18-1023A.066.MS

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 11:21, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		100	75	125	0	20
Barium		88	75	125	1	20
Lead		91	75	125	2	20
Selenium		101	75	125	5	20
Zinc		95	75	125	4	20

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-102318-2

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

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-18-1023A.071.LCS

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 11:30, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		102	85	115
Barium		99	85	115
Lead		95	85	115
Selenium		97	85	115
Zinc		105	85	115

#### Blank (BLK)

Lab Sample ID: MT4-18-1023A.073.LRB

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 11:32, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 1

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

#### Matrix Spike (MS)

Lab Sample ID: MT4-18-1023A.086.MS, Parent Sample ID: S95705.14

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 11:51, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		102	75	125
Barium		88	75	125
Lead		90	75	125
Selenium		98	75	125
Zinc		99	75	125

#### Matrix Spike (MS)

Lab Sample ID: MT4-18-1023A.104.MS, Parent Sample ID: S95705.14

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 12:17, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Zinc		96	75	125

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-18-1023A.087.MSD, Parent Sample ID: MT4-18-1023A.086.MS

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 11:52, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		104	75	125	3	20
Barium		92	75	125	0	20
Lead		90	75	125	0	20
Selenium		99	75	125	2	20
Zinc		99	75	125	0	20

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-102318-2 (continued)

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

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-18-1023A.105.MSD, Parent Sample ID: MT4-18-1023A.104.MS

Run in Batch: MT4-18-1023A, Run Date: 10/23/2018 12:19, Prep Date: 10/23/2018, Matrix: Liquid, Dilution: 5

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Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Zinc		98	75	125	1	20

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## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181018W1

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

#### Laboratory Control Sample (LCS)

Lab Sample ID: 181018A3.LCSW18A

Run in Batch: 181018A3, Run Date: 10/18/2018 11:26, Prep Date: 10/18/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		101.0	67.4	121.2
Acetone		95.9	29.9	161.5
Methyl iodide		97.5	68.8	116.4
Carbon disulfide		96.0	63.8	137.4
tert-Methyl butyl ether (MTBE)		100.6	73.2	122.4
Acrylonitrile		112.3	69.9	128.9
2-Butanone (MEK)		105.0	44.0	134.4
Dichlorodifluoromethane		96.2	10.0	222.8
Chloromethane		106.6	23.8	166.5
Vinyl chloride		105.9	43.5	149.1
Bromomethane		105.9	56.8	151.3
Chloroethane		97.7	53.4	149.4
Trichlorofluoromethane		106.5	59.7	151.8
1,1-Dichloroethene		104.2	69.6	139.4
Methylene chloride		103.6	73.3	121.1
trans-1,2-Dichloroethene		106.2	73.6	129.3
1,1-Dichloroethane		104.7	71.5	126.2
cis-1,2-Dichloroethene		106.0	76.6	122.1
Tetrahydrofuran		106.9	59.0	117.9
Chloroform		109.3	78.4	124.0
Bromochloromethane		108.7	78.2	120.8
1,1,1-Trichloroethane		106.5	79.4	130.9
4-Methyl-2-pentanone (MIBK)		109.8	71.6	125.2
2-Hexanone		110.6	55.4	136.9
Carbon tetrachloride		111.4	72.6	133.0
Benzene		109.9	79.9	124.9
1,2-Dichloroethane		110.8	76.0	126.3
Trichloroethene		110.9	79.7	124.2
1,2-Dichloropropane		106.9	78.6	126.4
Bromodichloromethane		114.5	80.4	128.2
Dibromomethane		112.4	76.9	122.1
cis-1,3-Dichloropropene		109.2	79.8	129.9
Toluene		111.9	79.8	124.5
trans-1,3-Dichloropropene		110.7	74.0	131.3
1,1,2-Trichloroethane		111.7	78.7	123.1
Tetrachloroethene		111.3	74.5	124.5
trans-1,4-Dichloro-2-butene		103.5	68.6	135.4
Dibromochloromethane		104.7	74.6	127.2
1,2-Dibromoethane		109.5	70.3	133.7
Chlorobenzene		104.8	79.2	122.7
1,1,1,2-Tetrachloroethane		105.9	80.3	128.2
Ethylbenzene		105.9	79.5	129.1
p,m-Xylene		106.4	79.4	132.2
o-Xylene		106.3	80.2	131.0
Styrene		107.9	69.5	126.7
Isopropylbenzene		106.5	74.4	121.5

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181018W1 (continued)

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

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 181018A3.LCSW18A

Run in Batch: 181018A3, Run Date: 10/18/2018 11:26, Prep Date: 10/18/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromoform		105.5	69.4	128.0
1,1,2,2-Tetrachloroethane		106.1	79.8	126.3
1,2,3-Trichloropropane		109.0	78.3	138.8
n-Propylbenzene		107.6	82.0	130.7
Bromobenzene		104.5	78.7	124.6
1,3,5-Trimethylbenzene		107.2	81.3	128.9
tert-Butylbenzene		107.2	80.7	128.9
1,2,4-Trimethylbenzene		105.7	81.4	130.8
sec-Butylbenzene		111.1	77.4	129.8
p-Isopropyltoluene		111.0	79.8	137.5
1,3-Dichlorobenzene		108.6	77.0	131.3
1,4-Dichlorobenzene		108.4	20.7	137.7
1,2-Dichlorobenzene		109.2	10.0	166.2
1,2,3-Trimethylbenzene		108.3	76.3	124.2
n-Butylbenzene		112.5	80.0	133.3
Hexachloroethane		107.0	23.8	138.1
1,2-Dibromo-3-chloropropane		111.9	21.2	189.4
1,2,4-Trichlorobenzene		112.2	27.4	143.4
1,2,3-Trichlorobenzene		113.9	75.4	131.4
Naphthalene		115.5	32.9	135.8
2-Methylnaphthalene		117.3	25.5	165.5

### Blank (BLK)

Lab Sample ID: 181018A3.BLKW18A

Run in Batch: 181018A3, Run Date: 10/18/2018 13:28, Prep Date: 10/18/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181018W1 (continued)**

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

**Blank (BLK) (continued)**

Lab Sample ID: 181018A3.BLKW18A

Run in Batch: 181018A3, Run Date: 10/18/2018 13:28, Prep Date: 10/18/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181018W1 (continued)**

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

**Blank (BLK) (continued)**

Lab Sample ID: 181018A3.BLKW18A

Run in Batch: 181018A3, Run Date: 10/18/2018 13:28, Prep Date: 10/18/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
2-Methylnaphthalene		ND	1.00	ug/l

**Laboratory Control Sample Duplicate (LCSD)**

Lab Sample ID: 181018A3.LCSDW18A, Parent Sample ID: 181018A3.LCSW18A

Run in Batch: 181018A3, Run Date: 10/18/2018 11:47, Prep Date: 10/18/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		101.9	67.4	121.2	0.9	30.0
Acetone		105.1	29.9	161.5	9.2	30.0
Methyl iodide		99.3	68.8	116.4	1.8	30.0
Carbon disulfide		95.9	63.8	137.4	0.0	30.0
tert-Methyl butyl ether (MTBE)		103.7	73.2	122.4	3.1	30.0
Acrylonitrile		112.3	69.9	128.9	0.0	30.0
2-Butanone (MEK)		105.5	44.0	134.4	0.6	30.0
Dichlorodifluoromethane		97.0	10.0	222.8	0.8	30.0
Chloromethane		107.3	23.8	166.5	0.6	30.0
Vinyl chloride		105.9	43.5	149.1	0.0	30.0
Bromomethane		105.3	56.8	151.3	0.6	30.0
Chloroethane		99.5	53.4	149.4	1.8	30.0
Trichlorofluoromethane		107.0	59.7	151.8	0.5	30.0
1,1-Dichloroethene		104.8	69.6	139.4	0.6	30.0
Methylene chloride		104.3	73.3	121.1	0.7	30.0
trans-1,2-Dichloroethene		108.1	73.6	129.3	1.8	30.0
1,1-Dichloroethane		107.1	71.5	126.2	2.3	30.0
cis-1,2-Dichloroethene		105.8	76.6	122.1	0.2	30.0
Tetrahydrofuran		101.9	59.0	117.9	4.8	30.0
Chloroform		109.9	78.4	124.0	0.6	30.0
Bromochloromethane		109.2	78.2	120.8	0.4	30.0
1,1,1-Trichloroethane		107.1	79.4	130.9	0.5	30.0
4-Methyl-2-pentanone (MIBK)		107.3	71.6	125.2	2.3	30.0
2-Hexanone		112.6	55.4	136.9	1.7	30.0
Carbon tetrachloride		112.6	72.6	133.0	1.0	30.0
Benzene		110.2	79.9	124.9	0.3	30.0
1,2-Dichloroethane		110.9	76.0	126.3	0.1	30.0
Trichloroethene		111.4	79.7	124.2	0.4	30.0
1,2-Dichloropropane		108.4	78.6	126.4	1.4	30.0
Bromodichloromethane		114.1	80.4	128.2	0.4	30.0
Dibromomethane		111.1	76.9	122.1	1.1	30.0
cis-1,3-Dichloropropene		110.2	79.8	129.9	1.0	30.0
Toluene		112.9	79.8	124.5	0.9	30.0
trans-1,3-Dichloropropene		111.7	74.0	131.3	0.8	30.0
1,1,2-Trichloroethane		110.6	78.7	123.1	1.0	30.0
Tetrachloroethene		112.8	74.5	124.5	1.3	30.0
trans-1,4-Dichloro-2-butene		98.5	68.6	135.4	4.9	30.0
Dibromochloromethane		104.7	74.6	127.2	0.0	30.0
1,2-Dibromoethane		107.4	70.3	133.7	2.0	30.0
Chlorobenzene		104.0	79.2	122.7	0.7	30.0

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181018W1 (continued)**

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

**Laboratory Control Sample Duplicate (LCSD) (continued)**

Lab Sample ID: 181018A3.LCSDW18A, Parent Sample ID: 181018A3.LCSW18A

Run in Batch: 181018A3, Run Date: 10/18/2018 11:47, Prep Date: 10/18/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		105.4	80.3	128.2	0.5	30.0
Ethylbenzene		105.4	79.5	129.1	0.5	30.0
p,m-Xylene		105.8	79.4	132.2	0.6	30.0
o-Xylene		105.9	80.2	131.0	0.4	30.0
Styrene		105.9	69.5	126.7	1.9	30.0
Isopropylbenzene		105.2	74.4	121.5	1.3	30.0
Bromoform		103.5	69.4	128.0	2.0	30.0
1,1,2,2-Tetrachloroethane		103.4	79.8	126.3	2.6	30.0
1,2,3-Trichloropropane		104.2	78.3	138.8	4.5	30.0
n-Propylbenzene		106.4	82.0	130.7	1.1	30.0
Bromobenzene		103.1	78.7	124.6	1.4	30.0
1,3,5-Trimethylbenzene		105.8	81.3	128.9	1.3	30.0
tert-Butylbenzene		107.4	80.7	128.9	0.2	30.0
1,2,4-Trimethylbenzene		103.9	81.4	130.8	1.7	30.0
sec-Butylbenzene		111.7	77.4	129.8	0.5	30.0
p-Isopropyltoluene		112.1	79.8	137.5	1.0	30.0
1,3-Dichlorobenzene		108.0	77.0	131.3	0.5	30.0
1,4-Dichlorobenzene		108.5	20.7	137.7	0.1	30.0
1,2-Dichlorobenzene		108.3	10.0	166.2	0.8	30.0
1,2,3-Trimethylbenzene		108.3	76.3	124.2	0.1	30.0
n-Butylbenzene		114.2	80.0	133.3	1.5	30.0
Hexachloroethane		106.5	23.8	138.1	0.4	30.0
1,2-Dibromo-3-chloropropane		109.1	21.2	189.4	2.5	30.0
1,2,4-Trichlorobenzene		111.7	27.4	143.4	0.4	30.0
1,2,3-Trichlorobenzene		113.0	75.4	131.4	0.8	30.0
Naphthalene		112.8	32.9	135.8	2.4	30.0
2-Methylnaphthalene		117.1	25.5	165.5	0.2	30.0

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF181020W1

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

### Laboratory Control Sample (LCS)

Lab Sample ID: 181020A3.LCSW20A

Run in Batch: 181020A3, Run Date: 10/20/2018 20:43, Prep Date: 10/20/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		106.9	67.4	121.2
Acetone		153.1	29.9	161.5
Methyl iodide		102.7	68.8	116.4
Carbon disulfide		101.6	63.8	137.4
tert-Methyl butyl ether (MTBE)		107.9	73.2	122.4
Acrylonitrile		119.3	69.9	128.9
2-Butanone (MEK)		129.3	44.0	134.4
Dichlorodifluoromethane		98.1	10.0	222.8
Chloromethane		116.5	23.8	166.5
Vinyl chloride		112.5	43.5	149.1
Bromomethane		111.8	56.8	151.3
Chloroethane		103.0	53.4	149.4
Trichlorofluoromethane		110.9	59.7	151.8
1,1-Dichloroethene		110.3	69.6	139.4
Methylene chloride		107.5	73.3	121.1
trans-1,2-Dichloroethene		110.2	73.6	129.3
1,1-Dichloroethane		112.7	71.5	126.2
cis-1,2-Dichloroethene		111.7	76.6	122.1
Tetrahydrofuran	*	120.1	59.0	117.9
Chloroform		115.1	78.4	124.0
Bromochloromethane		113.9	78.2	120.8
1,1,1-Trichloroethane		112.3	79.4	130.9
4-Methyl-2-pentanone (MIBK)		115.2	71.6	125.2
2-Hexanone		127.2	55.4	136.9
Carbon tetrachloride		109.6	72.6	133.0
Benzene		110.3	79.9	124.9
1,2-Dichloroethane		111.2	76.0	126.3
Trichloroethene		110.9	79.7	124.2
1,2-Dichloropropane		109.5	78.6	126.4
Bromodichloromethane		116.0	80.4	128.2
Dibromomethane		112.0	76.9	122.1
cis-1,3-Dichloropropene		113.8	79.8	129.9
Toluene		112.5	79.8	124.5
trans-1,3-Dichloropropene		113.3	74.0	131.3
1,1,2-Trichloroethane		114.1	78.7	123.1
Tetrachloroethene		100.8	74.5	124.5
trans-1,4-Dichloro-2-butene		98.5	68.6	135.4
Dibromochloromethane		100.9	74.6	127.2
1,2-Dibromoethane		105.0	70.3	133.7
Chlorobenzene		99.2	79.2	122.7
1,1,1,2-Tetrachloroethane		100.7	80.3	128.2
Ethylbenzene		100.8	79.5	129.1
p,m-Xylene		100.9	79.4	132.2
o-Xylene		100.7	80.2	131.0
Styrene		101.7	69.5	126.7
Isopropylbenzene		99.4	74.4	121.5

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181020W1 (continued)**

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

**Laboratory Control Sample (LCS) (continued)**

Lab Sample ID: 181020A3.LCSW20A

Run in Batch: 181020A3, Run Date: 10/20/2018 20:43, Prep Date: 10/20/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromoform		102.3	69.4	128.0
1,1,2,2-Tetrachloroethane		104.3	79.8	126.3
1,2,3-Trichloropropane		103.1	78.3	138.8
n-Propylbenzene		101.4	82.0	130.7
Bromobenzene		99.8	78.7	124.6
1,3,5-Trimethylbenzene		99.9	81.3	128.9
tert-Butylbenzene		100.6	80.7	128.9
1,2,4-Trimethylbenzene		99.1	81.4	130.8
sec-Butylbenzene		100.0	77.4	129.8
p-Isopropyltoluene		99.3	79.8	137.5
1,3-Dichlorobenzene		97.6	77.0	131.3
1,4-Dichlorobenzene		98.7	20.7	137.7
1,2-Dichlorobenzene		98.1	10.0	166.2
1,2,3-Trimethylbenzene		97.3	76.3	124.2
n-Butylbenzene		102.0	80.0	133.3
Hexachloroethane		95.4	23.8	138.1
1,2-Dibromo-3-chloropropane		103.0	21.2	189.4
1,2,4-Trichlorobenzene		99.0	27.4	143.4
1,2,3-Trichlorobenzene		101.0	75.4	131.4
Naphthalene		101.9	32.9	135.8
2-Methylnaphthalene		102.4	25.5	165.5

**Blank (BLK)**

Lab Sample ID: 181020A3.BLKW20A

Run in Batch: 181020A3, Run Date: 10/20/2018 22:23, Prep Date: 10/20/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181020W1 (continued)**

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

**Blank (BLK) (continued)**

Lab Sample ID: 181020A3.BLKW20A

Run in Batch: 181020A3, Run Date: 10/20/2018 22:23, Prep Date: 10/20/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181020W1 (continued)**

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

**Blank (BLK) (continued)**

Lab Sample ID: 181020A3.BLKW20A

Run in Batch: 181020A3, Run Date: 10/20/2018 22:23, Prep Date: 10/20/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
2-Methylnaphthalene		ND	1.00	ug/l

**Laboratory Control Sample Duplicate (LCSD)**

Lab Sample ID: 181020A3.LCSDW20A, Parent Sample ID: 181020A3.LCSW20A

Run in Batch: 181020A3, Run Date: 10/20/2018 21:03, Prep Date: 10/20/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		107.6	67.4	121.2	0.6	30.0
Acetone		156.5	29.9	161.5	2.2	30.0
Methyl iodide		102.9	68.8	116.4	0.3	30.0
Carbon disulfide		102.9	63.8	137.4	1.3	30.0
tert-Methyl butyl ether (MTBE)		110.0	73.2	122.4	1.9	30.0
Acrylonitrile		120.9	69.9	128.9	1.3	30.0
2-Butanone (MEK)	*	136.3	44.0	134.4	5.3	30.0
Dichlorodifluoromethane		96.0	10.0	222.8	2.2	30.0
Chloromethane		116.3	23.8	166.5	0.2	30.0
Vinyl chloride		111.4	43.5	149.1	1.0	30.0
Bromomethane		111.5	56.8	151.3	0.3	30.0
Chloroethane		103.0	53.4	149.4	0.1	30.0
Trichlorofluoromethane		111.1	59.7	151.8	0.2	30.0
1,1-Dichloroethene		109.9	69.6	139.4	0.4	30.0
Methylene chloride		106.5	73.3	121.1	1.0	30.0
trans-1,2-Dichloroethene		112.2	73.6	129.3	1.7	30.0
1,1-Dichloroethane		110.9	71.5	126.2	1.6	30.0
cis-1,2-Dichloroethene		110.4	76.6	122.1	1.2	30.0
Tetrahydrofuran	*	119.2	59.0	117.9	0.8	30.0
Chloroform		114.8	78.4	124.0	0.3	30.0
Bromochloromethane		115.7	78.2	120.8	1.5	30.0
1,1,1-Trichloroethane		113.6	79.4	130.9	1.2	30.0
4-Methyl-2-pentanone (MIBK)		115.6	71.6	125.2	0.4	30.0
2-Hexanone		124.3	55.4	136.9	2.3	30.0
Carbon tetrachloride		108.2	72.6	133.0	1.3	30.0
Benzene		106.1	79.9	124.9	3.9	30.0
1,2-Dichloroethane		107.2	76.0	126.3	3.7	30.0
Trichloroethene		106.8	79.7	124.2	3.8	30.0
1,2-Dichloropropane		106.2	78.6	126.4	3.0	30.0
Bromodichloromethane		110.7	80.4	128.2	4.7	30.0
Dibromomethane		107.5	76.9	122.1	4.1	30.0
cis-1,3-Dichloropropene		107.8	79.8	129.9	5.4	30.0
Toluene		108.1	79.8	124.5	3.9	30.0
trans-1,3-Dichloropropene		109.5	74.0	131.3	3.4	30.0
1,1,2-Trichloroethane		109.4	78.7	123.1	4.2	30.0
Tetrachloroethene		98.4	74.5	124.5	2.4	30.0
trans-1,4-Dichloro-2-butene		90.7	68.6	135.4	8.2	30.0
Dibromochloromethane		98.7	74.6	127.2	2.2	30.0
1,2-Dibromoethane		102.4	70.3	133.7	2.5	30.0
Chlorobenzene		96.8	79.2	122.7	2.5	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181020W1 (continued)

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

### Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 181020A3.LCSDW20A, Parent Sample ID: 181020A3.LCSW20A

Run in Batch: 181020A3, Run Date: 10/20/2018 21:03, Prep Date: 10/20/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		98.3	80.3	128.2	2.5	30.0
Ethylbenzene		97.5	79.5	129.1	3.3	30.0
p,m-Xylene		97.7	79.4	132.2	3.2	30.0
o-Xylene		97.1	80.2	131.0	3.7	30.0
Styrene		99.7	69.5	126.7	2.0	30.0
Isopropylbenzene		96.6	74.4	121.5	2.9	30.0
Bromoform		99.3	69.4	128.0	2.9	30.0
1,1,2,2-Tetrachloroethane		103.1	79.8	126.3	1.1	30.0
1,2,3-Trichloropropane		102.7	78.3	138.8	0.3	30.0
n-Propylbenzene		97.4	82.0	130.7	4.0	30.0
Bromobenzene		97.0	78.7	124.6	2.9	30.0
1,3,5-Trimethylbenzene		96.3	81.3	128.9	3.6	30.0
tert-Butylbenzene		96.6	80.7	128.9	4.0	30.0
1,2,4-Trimethylbenzene		95.6	81.4	130.8	3.6	30.0
sec-Butylbenzene		96.7	77.4	129.8	3.4	30.0
p-Isopropyltoluene		97.0	79.8	137.5	2.4	30.0
1,3-Dichlorobenzene		96.3	77.0	131.3	1.3	30.0
1,4-Dichlorobenzene		95.6	20.7	137.7	3.2	30.0
1,2-Dichlorobenzene		96.2	10.0	166.2	1.9	30.0
1,2,3-Trimethylbenzene		94.9	76.3	124.2	2.5	30.0
n-Butylbenzene		97.7	80.0	133.3	4.3	30.0
Hexachloroethane		91.4	23.8	138.1	4.3	30.0
1,2-Dibromo-3-chloropropane		102.6	21.2	189.4	0.4	30.0
1,2,4-Trichlorobenzene		97.7	27.4	143.4	1.3	30.0
1,2,3-Trichlorobenzene		97.0	75.4	131.4	4.0	30.0
Naphthalene		101.0	32.9	135.8	0.9	30.0
2-Methylnaphthalene		100.5	25.5	165.5	1.8	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181022W1

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

#### Laboratory Control Sample (LCS)

Lab Sample ID: 181022A7.LCSW22A

Run in Batch: 181022A7, Run Date: 10/22/2018 14:00, Prep Date: 10/22/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		97.4	67.4	121.2
Acetone		108.3	29.9	161.5
Methyl iodide		99.6	68.8	116.4
Carbon disulfide		103.5	63.8	137.4
tert-Methyl butyl ether (MTBE)		100.9	73.2	122.4
Acrylonitrile		98.6	69.9	128.9
2-Butanone (MEK)		104.4	44.0	134.4
Dichlorodifluoromethane		99.2	10.0	222.8
Chloromethane		97.3	23.8	166.5
Vinyl chloride		99.9	43.5	149.1
Bromomethane		95.0	56.8	151.3
Chloroethane		95.1	53.4	149.4
Trichlorofluoromethane		99.1	59.7	151.8
1,1-Dichloroethene		99.2	69.6	139.4
Methylene chloride		97.6	73.3	121.1
trans-1,2-Dichloroethene		100.7	73.6	129.3
1,1-Dichloroethane		98.7	71.5	126.2
cis-1,2-Dichloroethene		98.5	76.6	122.1
Tetrahydrofuran		96.2	59.0	117.9
Chloroform		99.3	78.4	124.0
Bromochloromethane		99.9	78.2	120.8
1,1,1-Trichloroethane		101.2	79.4	130.9
4-Methyl-2-pentanone (MIBK)		98.9	71.6	125.2
2-Hexanone		99.9	55.4	136.9
Carbon tetrachloride		102.6	72.6	133.0
Benzene		98.7	79.9	124.9
1,2-Dichloroethane		99.9	76.0	126.3
Trichloroethene		98.6	79.7	124.2
1,2-Dichloropropane		99.2	78.6	126.4
Bromodichloromethane		100.8	80.4	128.2
Dibromomethane		103.3	76.9	122.1
cis-1,3-Dichloropropene		101.0	79.8	129.9
Toluene		98.8	79.8	124.5
trans-1,3-Dichloropropene		102.8	74.0	131.3
1,1,2-Trichloroethane		100.2	78.7	123.1
Tetrachloroethene		80.1	74.5	124.5
trans-1,4-Dichloro-2-butene		102.6	68.6	135.4
Dibromochloromethane		104.4	74.6	127.2
1,2-Dibromoethane		102.0	70.3	133.7
Chlorobenzene		100.1	79.2	122.7
1,1,1,2-Tetrachloroethane		102.4	80.3	128.2
Ethylbenzene		99.3	79.5	129.1
p,m-Xylene		99.3	79.4	132.2
o-Xylene		99.3	80.2	131.0
Styrene		99.7	69.5	126.7
Isopropylbenzene		100.6	74.4	121.5

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181022W1 (continued)

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

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 181022A7.LCSW22A

Run in Batch: 181022A7, Run Date: 10/22/2018 14:00, Prep Date: 10/22/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromoform		108.2	69.4	128.0
1,1,2,2-Tetrachloroethane		104.8	79.8	126.3
1,2,3-Trichloropropane		103.9	78.3	138.8
n-Propylbenzene		101.8	82.0	130.7
Bromobenzene		99.9	78.7	124.6
1,3,5-Trimethylbenzene		100.2	81.3	128.9
tert-Butylbenzene		101.2	80.7	128.9
1,2,4-Trimethylbenzene		100.1	81.4	130.8
sec-Butylbenzene		100.8	77.4	129.8
p-Isopropyltoluene		101.7	79.8	137.5
1,3-Dichlorobenzene		100.9	77.0	131.3
1,4-Dichlorobenzene		100.5	20.7	137.7
1,2-Dichlorobenzene		101.5	10.0	166.2
1,2,3-Trimethylbenzene		99.5	76.3	124.2
n-Butylbenzene		101.4	80.0	133.3
Hexachloroethane		105.6	23.8	138.1
1,2-Dibromo-3-chloropropane		105.3	21.2	189.4
1,2,4-Trichlorobenzene		107.7	27.4	143.4
1,2,3-Trichlorobenzene		107.5	75.4	131.4
Naphthalene		106.3	32.9	135.8
2-Methylnaphthalene		109.7	25.5	165.5

### Blank (BLK)

Lab Sample ID: 181022A7.BLKW22A

Run in Batch: 181022A7, Run Date: 10/22/2018 15:16, Prep Date: 10/22/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF181022W1 (continued)

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

### Blank (BLK) (continued)

Lab Sample ID: 181022A7.BLKW22A

Run in Batch: 181022A7, Run Date: 10/22/2018 15:16, Prep Date: 10/22/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181022W1 (continued)**

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

**Blank (BLK) (continued)**

Lab Sample ID: 181022A7.BLKW22A

Run in Batch: 181022A7, Run Date: 10/22/2018 15:16, Prep Date: 10/22/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
2-Methylnaphthalene		ND	1.00	ug/l

**Laboratory Control Sample Duplicate (LCSD)**

Lab Sample ID: 181022A7.LCSDW22A, Parent Sample ID: 181022A7.LCSW22A

Run in Batch: 181022A7, Run Date: 10/22/2018 14:19, Prep Date: 10/22/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		95.5	67.4	121.2	2.0	30.0
Acetone		114.7	29.9	161.5	5.7	30.0
Methyl iodide		98.6	68.8	116.4	1.1	30.0
Carbon disulfide		96.0	63.8	137.4	7.5	30.0
tert-Methyl butyl ether (MTBE)		96.5	73.2	122.4	4.4	30.0
Acrylonitrile		96.1	69.9	128.9	2.5	30.0
2-Butanone (MEK)		108.5	44.0	134.4	3.9	30.0
Dichlorodifluoromethane		97.4	10.0	222.8	1.8	30.0
Chloromethane		95.4	23.8	166.5	2.0	30.0
Vinyl chloride		98.3	43.5	149.1	1.6	30.0
Bromomethane		94.0	56.8	151.3	1.0	30.0
Chloroethane		93.5	53.4	149.4	1.7	30.0
Trichlorofluoromethane		97.7	59.7	151.8	1.5	30.0
1,1-Dichloroethene		98.0	69.6	139.4	1.2	30.0
Methylene chloride		95.8	73.3	121.1	1.9	30.0
trans-1,2-Dichloroethene		97.9	73.6	129.3	2.8	30.0
1,1-Dichloroethane		98.3	71.5	126.2	0.4	30.0
cis-1,2-Dichloroethene		97.4	76.6	122.1	1.1	30.0
Tetrahydrofuran		96.2	59.0	117.9	0.0	30.0
Chloroform		98.2	78.4	124.0	1.1	30.0
Bromochloromethane		98.0	78.2	120.8	1.9	30.0
1,1,1-Trichloroethane		100.1	79.4	130.9	1.1	30.0
4-Methyl-2-pentanone (MIBK)		97.5	71.6	125.2	1.4	30.0
2-Hexanone		102.1	55.4	136.9	2.2	30.0
Carbon tetrachloride		99.9	72.6	133.0	2.6	30.0
Benzene		97.1	79.9	124.9	1.6	30.0
1,2-Dichloroethane		95.9	76.0	126.3	4.1	30.0
Trichloroethene		96.9	79.7	124.2	1.7	30.0
1,2-Dichloropropane		96.3	78.6	126.4	2.9	30.0
Bromodichloromethane		98.0	80.4	128.2	2.9	30.0
Dibromomethane		98.5	76.9	122.1	4.7	30.0
cis-1,3-Dichloropropene		98.1	79.8	129.9	2.8	30.0
Toluene		96.9	79.8	124.5	2.0	30.0
trans-1,3-Dichloropropene		98.0	74.0	131.3	4.8	30.0
1,1,2-Trichloroethane		95.4	78.7	123.1	4.9	30.0
Tetrachloroethene		90.9	74.5	124.5	12.6	30.0
trans-1,4-Dichloro-2-butene		97.9	68.6	135.4	4.7	30.0
Dibromochloromethane		100.1	74.6	127.2	4.2	30.0
1,2-Dibromoethane		96.2	70.3	133.7	5.8	30.0
Chlorobenzene		98.3	79.2	122.7	1.9	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181022W1 (continued)

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

### Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 181022A7.LCSDW22A, Parent Sample ID: 181022A7.LCSW22A

Run in Batch: 181022A7, Run Date: 10/22/2018 14:19, Prep Date: 10/22/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		99.9	80.3	128.2	2.5	30.0
Ethylbenzene		98.3	79.5	129.1	1.1	30.0
p,m-Xylene		97.9	79.4	132.2	1.4	30.0
o-Xylene		97.1	80.2	131.0	2.2	30.0
Styrene		97.6	69.5	126.7	2.1	30.0
Isopropylbenzene		99.1	74.4	121.5	1.5	30.0
Bromoform		102.3	69.4	128.0	5.6	30.0
1,1,2,2-Tetrachloroethane		98.9	79.8	126.3	5.8	30.0
1,2,3-Trichloropropane		99.1	78.3	138.8	4.7	30.0
n-Propylbenzene		101.2	82.0	130.7	0.6	30.0
Bromobenzene		97.8	78.7	124.6	2.1	30.0
1,3,5-Trimethylbenzene		98.7	81.3	128.9	1.5	30.0
tert-Butylbenzene		99.6	80.7	128.9	1.6	30.0
1,2,4-Trimethylbenzene		98.7	81.4	130.8	1.4	30.0
sec-Butylbenzene		104.7	77.4	129.8	3.8	30.0
p-Isopropyltoluene		105.3	79.8	137.5	3.4	30.0
1,3-Dichlorobenzene		101.9	77.0	131.3	1.1	30.0
1,4-Dichlorobenzene		101.3	20.7	137.7	0.7	30.0
1,2-Dichlorobenzene		102.7	10.0	166.2	1.1	30.0
1,2,3-Trimethylbenzene		101.7	76.3	124.2	2.1	30.0
n-Butylbenzene		103.5	80.0	133.3	2.1	30.0
Hexachloroethane		108.5	23.8	138.1	2.7	30.0
1,2-Dibromo-3-chloropropane		108.1	21.2	189.4	2.6	30.0
1,2,4-Trichlorobenzene		106.0	27.4	143.4	1.5	30.0
1,2,3-Trichlorobenzene		108.5	75.4	131.4	0.9	30.0
Naphthalene		108.0	32.9	135.8	1.6	30.0
2-Methylnaphthalene		117.3	25.5	165.5	6.7	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181023W2

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

#### Laboratory Control Sample (LCS)

Lab Sample ID: 181023A3.LCSW23A

Run in Batch: 181023A3, Run Date: 10/23/2018 13:55, Prep Date: 10/23/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		105.4	67.4	121.2
Acetone		133.6	29.9	161.5
Methyl iodide		94.9	68.8	116.4
Carbon disulfide		93.9	63.8	137.4
tert-Methyl butyl ether (MTBE)		106.7	73.2	122.4
Acrylonitrile		120.2	69.9	128.9
2-Butanone (MEK)		127.5	44.0	134.4
Dichlorodifluoromethane		78.1	10.0	222.8
Chloromethane		118.0	23.8	166.5
Vinyl chloride		104.6	43.5	149.1
Bromomethane		103.1	56.8	151.3
Chloroethane		96.0	53.4	149.4
Trichlorofluoromethane		103.0	59.7	151.8
1,1-Dichloroethene		104.6	69.6	139.4
Methylene chloride		105.6	73.3	121.1
trans-1,2-Dichloroethene		108.7	73.6	129.3
1,1-Dichloroethane		108.0	71.5	126.2
cis-1,2-Dichloroethene		107.4	76.6	122.1
Tetrahydrofuran		117.7	59.0	117.9
Chloroform		109.9	78.4	124.0
Bromochloromethane		107.9	78.2	120.8
1,1,1-Trichloroethane		105.1	79.4	130.9
4-Methyl-2-pentanone (MIBK)		116.5	71.6	125.2
2-Hexanone		122.6	55.4	136.9
Carbon tetrachloride		104.7	72.6	133.0
Benzene		108.2	79.9	124.9
1,2-Dichloroethane		106.5	76.0	126.3
Trichloroethene		108.0	79.7	124.2
1,2-Dichloropropane		107.9	78.6	126.4
Bromodichloromethane		110.5	80.4	128.2
Dibromomethane		108.6	76.9	122.1
cis-1,3-Dichloropropene		106.9	79.8	129.9
Toluene		110.0	79.8	124.5
trans-1,3-Dichloropropene		107.3	74.0	131.3
1,1,2-Trichloroethane		112.7	78.7	123.1
Tetrachloroethene		110.9	74.5	124.5
trans-1,4-Dichloro-2-butene	*	46.1	68.6	135.4
Dibromochloromethane		106.6	74.6	127.2
1,2-Dibromoethane		112.8	70.3	133.7
Chlorobenzene		106.4	79.2	122.7
1,1,1,2-Tetrachloroethane		106.4	80.3	128.2
Ethylbenzene		107.2	79.5	129.1
p,m-Xylene		107.3	79.4	132.2
o-Xylene		106.9	80.2	131.0
Styrene		109.6	69.5	126.7
Isopropylbenzene		106.2	74.4	121.5

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181023W2 (continued)**

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

**Laboratory Control Sample (LCS) (continued)**

Lab Sample ID: 181023A3.LCSW23A

Run in Batch: 181023A3, Run Date: 10/23/2018 13:55, Prep Date: 10/23/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromoform		104.0	69.4	128.0
1,1,2,2-Tetrachloroethane		113.1	79.8	126.3
1,2,3-Trichloropropane		112.9	78.3	138.8
n-Propylbenzene		106.6	82.0	130.7
Bromobenzene		105.0	78.7	124.6
1,3,5-Trimethylbenzene		105.8	81.3	128.9
tert-Butylbenzene		105.9	80.7	128.9
1,2,4-Trimethylbenzene		104.7	81.4	130.8
sec-Butylbenzene		105.6	77.4	129.8
p-Isopropyltoluene		105.7	79.8	137.5
1,3-Dichlorobenzene		103.5	77.0	131.3
1,4-Dichlorobenzene		104.0	20.7	137.7
1,2-Dichlorobenzene		104.3	10.0	166.2
1,2,3-Trimethylbenzene		105.1	76.3	124.2
n-Butylbenzene		106.2	80.0	133.3
Hexachloroethane		98.9	23.8	138.1
1,2-Dibromo-3-chloropropane		110.0	21.2	189.4
1,2,4-Trichlorobenzene		102.8	27.4	143.4
1,2,3-Trichlorobenzene		103.6	75.4	131.4
Naphthalene		109.6	32.9	135.8
2-Methylnaphthalene		105.6	25.5	165.5

**Blank (BLK)**

Lab Sample ID: 181023A3.BLKW23A

Run in Batch: 181023A3, Run Date: 10/23/2018 15:15, Prep Date: 10/23/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: VF181023W2 (continued)

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

### Blank (BLK) (continued)

Lab Sample ID: 181023A3.BLKW23A

Run in Batch: 181023A3, Run Date: 10/23/2018 15:15, Prep Date: 10/23/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181023W2 (continued)**

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

**Blank (BLK) (continued)**

Lab Sample ID: 181023A3.BLKW23A

Run in Batch: 181023A3, Run Date: 10/23/2018 15:15, Prep Date: 10/23/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
2-Methylnaphthalene		ND	1.00	ug/l

**Laboratory Control Sample Duplicate (LCSD)**

Lab Sample ID: 181023A3.LCSDW23A, Parent Sample ID: 181023A3.LCSW23A

Run in Batch: 181023A3, Run Date: 10/23/2018 14:15, Prep Date: 10/23/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		104.9	67.4	121.2	0.4	30.0
Acetone		140.6	29.9	161.5	5.1	30.0
Methyl iodide		97.5	68.8	116.4	2.7	30.0
Carbon disulfide		97.6	63.8	137.4	3.9	30.0
tert-Methyl butyl ether (MTBE)		109.5	73.2	122.4	2.6	30.0
Acrylonitrile		122.6	69.9	128.9	2.0	30.0
2-Butanone (MEK)	*	135.7	44.0	134.4	6.2	30.0
Dichlorodifluoromethane		80.3	10.0	222.8	2.8	30.0
Chloromethane		120.3	23.8	166.5	2.0	30.0
Vinyl chloride		105.9	43.5	149.1	1.2	30.0
Bromomethane		104.6	56.8	151.3	1.4	30.0
Chloroethane		97.5	53.4	149.4	1.6	30.0
Trichlorofluoromethane		103.5	59.7	151.8	0.4	30.0
1,1-Dichloroethene		103.6	69.6	139.4	1.0	30.0
Methylene chloride		107.6	73.3	121.1	1.9	30.0
trans-1,2-Dichloroethene		108.8	73.6	129.3	0.1	30.0
1,1-Dichloroethane		109.3	71.5	126.2	1.2	30.0
cis-1,2-Dichloroethene		108.2	76.6	122.1	0.7	30.0
Tetrahydrofuran	*	120.5	59.0	117.9	2.4	30.0
Chloroform		110.4	78.4	124.0	0.5	30.0
Bromochloromethane		110.5	78.2	120.8	2.3	30.0
1,1,1-Trichloroethane		107.3	79.4	130.9	2.0	30.0
4-Methyl-2-pentanone (MIBK)	*	125.7	71.6	125.2	7.6	30.0
2-Hexanone		134.2	55.4	136.9	9.0	30.0
Carbon tetrachloride		109.8	72.6	133.0	4.7	30.0
Benzene		111.3	79.9	124.9	2.8	30.0
1,2-Dichloroethane		111.1	76.0	126.3	4.2	30.0
Trichloroethene		114.4	79.7	124.2	5.7	30.0
1,2-Dichloropropane		113.6	78.6	126.4	5.2	30.0
Bromodichloromethane		115.5	80.4	128.2	4.4	30.0
Dibromomethane		113.5	76.9	122.1	4.4	30.0
cis-1,3-Dichloropropene		108.9	79.8	129.9	1.9	30.0
Toluene		113.1	79.8	124.5	2.7	30.0
trans-1,3-Dichloropropene		110.2	74.0	131.3	2.6	30.0
1,1,2-Trichloroethane		117.9	78.7	123.1	4.5	30.0
Tetrachloroethene	*	149.9	74.5	124.5	29.9	30.0
trans-1,4-Dichloro-2-butene	*	44.8	68.6	135.4	3.0	30.0
Dibromochloromethane		103.8	74.6	127.2	2.7	30.0
1,2-Dibromoethane		110.1	70.3	133.7	2.4	30.0
Chlorobenzene		102.9	79.2	122.7	3.4	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181023W2 (continued)

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

### Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 181023A3.LCSDW23A, Parent Sample ID: 181023A3.LCSW23A

Run in Batch: 181023A3, Run Date: 10/23/2018 14:15, Prep Date: 10/23/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		103.8	80.3	128.2	2.4	30.0
Ethylbenzene		103.9	79.5	129.1	3.1	30.0
p,m-Xylene		104.0	79.4	132.2	3.1	30.0
o-Xylene		104.3	80.2	131.0	2.4	30.0
Styrene		105.6	69.5	126.7	3.8	30.0
Isopropylbenzene		102.2	74.4	121.5	3.8	30.0
Bromoform		101.8	69.4	128.0	2.1	30.0
1,1,2,2-Tetrachloroethane		109.8	79.8	126.3	3.0	30.0
1,2,3-Trichloropropane		109.9	78.3	138.8	2.7	30.0
n-Propylbenzene		102.4	82.0	130.7	4.0	30.0
Bromobenzene		102.0	78.7	124.6	2.9	30.0
1,3,5-Trimethylbenzene		102.7	81.3	128.9	3.0	30.0
tert-Butylbenzene		102.2	80.7	128.9	3.6	30.0
1,2,4-Trimethylbenzene		102.5	81.4	130.8	2.2	30.0
sec-Butylbenzene		107.6	77.4	129.8	1.8	30.0
p-Isopropyltoluene		106.9	79.8	137.5	1.1	30.0
1,3-Dichlorobenzene		106.1	77.0	131.3	2.5	30.0
1,4-Dichlorobenzene		106.9	20.7	137.7	2.7	30.0
1,2-Dichlorobenzene		106.9	10.0	166.2	2.5	30.0
1,2,3-Trimethylbenzene		107.0	76.3	124.2	1.8	30.0
n-Butylbenzene		107.6	80.0	133.3	1.3	30.0
Hexachloroethane		99.3	23.8	138.1	0.4	30.0
1,2-Dibromo-3-chloropropane		115.4	21.2	189.4	4.7	30.0
1,2,4-Trichlorobenzene		105.2	27.4	143.4	2.3	30.0
1,2,3-Trichlorobenzene		106.7	75.4	131.4	2.9	30.0
Naphthalene		113.5	32.9	135.8	3.5	30.0
2-Methylnaphthalene		111.2	25.5	165.5	5.2	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181024W1

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

#### Laboratory Control Sample (LCS)

Lab Sample ID: 181024A7.LCSW24A

Run in Batch: 181024A7, Run Date: 10/24/2018 12:31, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		94.3	67.4	121.2
Acetone		84.9	29.9	161.5
Methyl iodide		94.5	68.8	116.4
Carbon disulfide		95.2	63.8	137.4
tert-Methyl butyl ether (MTBE)		96.3	73.2	122.4
Acrylonitrile		92.2	69.9	128.9
2-Butanone (MEK)		87.0	44.0	134.4
Dichlorodifluoromethane		126.4	10.0	222.8
Chloromethane		105.4	23.8	166.5
Vinyl chloride		105.5	43.5	149.1
Bromomethane		99.4	56.8	151.3
Chloroethane		96.2	53.4	149.4
Trichlorofluoromethane		100.7	59.7	151.8
1,1-Dichloroethene		92.9	69.6	139.4
Methylene chloride		93.3	73.3	121.1
trans-1,2-Dichloroethene		95.9	73.6	129.3
1,1-Dichloroethane		95.5	71.5	126.2
cis-1,2-Dichloroethene		96.1	76.6	122.1
Tetrahydrofuran		91.0	59.0	117.9
Chloroform		96.4	78.4	124.0
Bromochloromethane		97.9	78.2	120.8
1,1,1-Trichloroethane		97.1	79.4	130.9
4-Methyl-2-pentanone (MIBK)		97.2	71.6	125.2
2-Hexanone		95.0	55.4	136.9
Carbon tetrachloride		99.3	72.6	133.0
Benzene		96.1	79.9	124.9
1,2-Dichloroethane		99.0	76.0	126.3
Trichloroethene		95.9	79.7	124.2
1,2-Dichloropropane		97.5	78.6	126.4
Bromodichloromethane		99.2	80.4	128.2
Dibromomethane		102.3	76.9	122.1
cis-1,3-Dichloropropene		99.2	79.8	129.9
Toluene		97.1	79.8	124.5
trans-1,3-Dichloropropene		100.5	74.0	131.3
1,1,2-Trichloroethane		99.2	78.7	123.1
Tetrachloroethene		74.8	74.5	124.5
trans-1,4-Dichloro-2-butene		99.9	68.6	135.4
Dibromochloromethane		101.7	74.6	127.2
1,2-Dibromoethane		100.4	70.3	133.7
Chlorobenzene		99.3	79.2	122.7
1,1,1,2-Tetrachloroethane		101.0	80.3	128.2
Ethylbenzene		98.4	79.5	129.1
p,m-Xylene		98.7	79.4	132.2
o-Xylene		98.2	80.2	131.0
Styrene		98.7	69.5	126.7
Isopropylbenzene		100.1	74.4	121.5

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181024W1 (continued)

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

### Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 181024A7.LCSW24A

Run in Batch: 181024A7, Run Date: 10/24/2018 12:31, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromoform		104.5	69.4	128.0
1,1,2,2-Tetrachloroethane		101.5	79.8	126.3
1,2,3-Trichloropropane		100.7	78.3	138.8
n-Propylbenzene		101.1	82.0	130.7
Bromobenzene		100.4	78.7	124.6
1,3,5-Trimethylbenzene		99.8	81.3	128.9
tert-Butylbenzene		100.4	80.7	128.9
1,2,4-Trimethylbenzene		100.3	81.4	130.8
sec-Butylbenzene		97.4	77.4	129.8
p-Isopropyltoluene		98.6	79.8	137.5
1,3-Dichlorobenzene		98.4	77.0	131.3
1,4-Dichlorobenzene		99.9	20.7	137.7
1,2-Dichlorobenzene		100.5	10.0	166.2
1,2,3-Trimethylbenzene		97.2	76.3	124.2
n-Butylbenzene		97.9	80.0	133.3
Hexachloroethane		98.5	23.8	138.1
1,2-Dibromo-3-chloropropane		98.8	21.2	189.4
1,2,4-Trichlorobenzene		104.6	27.4	143.4
1,2,3-Trichlorobenzene		102.5	75.4	131.4
Naphthalene		101.6	32.9	135.8
2-Methylnaphthalene		102.5	25.5	165.5

### Blank (BLK)

Lab Sample ID: 181024A7.BLKW24A

Run in Batch: 181024A7, Run Date: 10/24/2018 14:26, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181024W1 (continued)**

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

**Blank (BLK) (continued)**

Lab Sample ID: 181024A7.BLKW24A

Run in Batch: 181024A7, Run Date: 10/24/2018 14:26, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181024W1 (continued)

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

### Blank (BLK) (continued)

Lab Sample ID: 181024A7.BLKW24A

Run in Batch: 181024A7, Run Date: 10/24/2018 14:26, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
2-Methylnaphthalene		ND	1.00	ug/l

### Matrix Spike (MS)

Lab Sample ID: 181024A7.9570515M, Parent Sample ID: S95705.14

Run in Batch: 181024A7, Run Date: 10/24/2018 13:09, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		85.7	67.4	121.2
Acetone		67.6	29.9	161.5
Methyl iodide		90.4	68.8	116.4
Carbon disulfide		88.7	63.8	137.4
tert-Methyl butyl ether (MTBE)		86.7	73.2	122.4
Acrylonitrile		86.5	69.9	128.9
2-Butanone (MEK)		90.5	44.0	134.4
Dichlorodifluoromethane		120.1	10.0	222.8
Chloromethane		99.2	23.8	166.5
Vinyl chloride		100.6	43.5	149.1
Bromomethane		93.9	56.8	151.3
Chloroethane		93.6	53.4	149.4
Trichlorofluoromethane		96.7	59.7	151.8
1,1-Dichloroethene		89.1	69.6	139.4
Methylene chloride		86.5	73.3	121.1
trans-1,2-Dichloroethene		90.5	73.6	129.3
1,1-Dichloroethane		89.6	71.5	126.2
cis-1,2-Dichloroethene		88.6	76.6	122.1
Tetrahydrofuran		85.7	59.0	117.9
Chloroform		89.6	78.4	124.0
Bromochloromethane		88.1	78.2	120.8
1,1,1-Trichloroethane		92.9	79.4	130.9
4-Methyl-2-pentanone (MIBK)		98.0	71.6	125.2
2-Hexanone		97.9	55.4	136.9
Carbon tetrachloride		93.2	72.6	133.0
Benzene		90.5	79.9	124.9
1,2-Dichloroethane		88.7	76.0	126.3
Trichloroethene		90.0	79.7	124.2
1,2-Dichloropropane		89.8	78.6	126.4
Bromodichloromethane		90.0	80.4	128.2
Dibromomethane		91.1	76.9	122.1
cis-1,3-Dichloropropene		89.4	79.8	129.9
Toluene		90.9	79.8	124.5
trans-1,3-Dichloropropene		90.6	74.0	131.3
1,1,2-Trichloroethane		88.7	78.7	123.1
Tetrachloroethene	*	70.1	74.5	124.5
trans-1,4-Dichloro-2-butene		95.0	68.6	135.4
Dibromochloromethane		90.2	74.6	127.2
1,2-Dibromoethane		89.6	70.3	133.7
Chlorobenzene		91.0	79.2	122.7

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181024W1 (continued)**

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

**Matrix Spike (MS) (continued)**

Lab Sample ID: 181024A7.9570515M, Parent Sample ID: S95705.14

Run in Batch: 181024A7, Run Date: 10/24/2018 13:09, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,1,2-Tetrachloroethane		92.1	80.3	128.2
Ethylbenzene		92.5	79.5	129.1
p,m-Xylene		92.0	79.4	132.2
o-Xylene		91.0	80.2	131.0
Styrene		90.4	69.5	126.7
Isopropylbenzene		93.6	74.4	121.5
Bromoform		92.7	69.4	128.0
1,1,2,2-Tetrachloroethane		93.6	79.8	126.3
1,2,3-Trichloropropane		93.1	78.3	138.8
n-Propylbenzene		93.0	82.0	130.7
Bromobenzene		90.3	78.7	124.6
1,3,5-Trimethylbenzene		92.4	81.3	128.9
tert-Butylbenzene		93.1	80.7	128.9
1,2,4-Trimethylbenzene		92.1	81.4	130.8
sec-Butylbenzene		91.8	77.4	129.8
p-Isopropyltoluene		91.2	79.8	137.5
1,3-Dichlorobenzene		89.3	77.0	131.3
1,4-Dichlorobenzene		87.6	20.7	137.7
1,2-Dichlorobenzene		88.8	10.0	166.2
1,2,3-Trimethylbenzene		89.0	76.3	124.2
n-Butylbenzene		89.7	80.0	133.3
Hexachloroethane		89.9	23.8	138.1
1,2-Dibromo-3-chloropropane		95.7	21.2	189.4
1,2,4-Trichlorobenzene		91.5	27.4	143.4
1,2,3-Trichlorobenzene		93.6	75.4	131.4
Naphthalene		100.1	32.9	135.8
2-Methylnaphthalene		115.7	25.5	165.5

**Matrix Spike Duplicate (MSD)**

Lab Sample ID: 181024A7.9570516N, Parent Sample ID: 181024A7.9570515M

Run in Batch: 181024A7, Run Date: 10/24/2018 13:29, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		91.4	67.4	121.2	6.5	30.0
Acetone		69.5	29.9	161.5	2.2	30.0
Methyl iodide		97.3	68.8	116.4	7.3	30.0
Carbon disulfide		94.9	63.8	137.4	6.8	30.0
tert-Methyl butyl ether (MTBE)		93.2	73.2	122.4	7.2	30.0
Acrylonitrile		89.3	69.9	128.9	3.2	30.0
2-Butanone (MEK)		84.3	44.0	134.4	6.9	30.0
Dichlorodifluoromethane		128.6	10.0	222.8	6.8	30.0
Chloromethane		107.4	23.8	166.5	7.9	30.0
Vinyl chloride		108.4	43.5	149.1	7.5	30.0
Bromomethane		100.0	56.8	151.3	6.4	30.0
Chloroethane		99.5	53.4	149.4	6.0	30.0
Trichlorofluoromethane		103.8	59.7	151.8	7.1	30.0
1,1-Dichloroethene		95.5	69.6	139.4	7.0	30.0

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181024W1 (continued)**

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

**Matrix Spike Duplicate (MSD) (continued)**

Lab Sample ID: 181024A7.9570516N, Parent Sample ID: 181024A7.9570515M

Run in Batch: 181024A7, Run Date: 10/24/2018 13:29, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Methylene chloride		93.8	73.3	121.1	8.1	30.0
trans-1,2-Dichloroethene		96.4	73.6	129.3	6.3	30.0
1,1-Dichloroethane		96.4	71.5	126.2	7.4	30.0
cis-1,2-Dichloroethene		96.1	76.6	122.1	8.1	30.0
Tetrahydrofuran		86.3	59.0	117.9	0.7	30.0
Chloroform		97.5	78.4	124.0	8.5	30.0
Bromochloromethane		95.9	78.2	120.8	8.6	30.0
1,1,1-Trichloroethane		99.7	79.4	130.9	7.1	30.0
4-Methyl-2-pentanone (MIBK)		100.8	71.6	125.2	2.8	30.0
2-Hexanone		101.4	55.4	136.9	3.5	30.0
Carbon tetrachloride		100.1	72.6	133.0	7.2	30.0
Benzene		96.1	79.9	124.9	6.0	30.0
1,2-Dichloroethane		94.5	76.0	126.3	6.4	30.0
Trichloroethene		96.3	79.7	124.2	6.7	30.0
1,2-Dichloropropane		95.9	78.6	126.4	6.6	30.0
Bromodichloromethane		96.0	80.4	128.2	6.4	30.0
Dibromomethane		96.4	76.9	122.1	5.6	30.0
cis-1,3-Dichloropropene		97.2	79.8	129.9	8.4	30.0
Toluene		97.6	79.8	124.5	7.0	30.0
trans-1,3-Dichloropropene		97.7	74.0	131.3	7.5	30.0
1,1,2-Trichloroethane		95.2	78.7	123.1	7.1	30.0
Tetrachloroethene		75.5	74.5	124.5	7.5	30.0
trans-1,4-Dichloro-2-butene		97.2	68.6	135.4	2.3	30.0
Dibromochloromethane		98.5	74.6	127.2	8.8	30.0
1,2-Dibromoethane		95.3	70.3	133.7	6.1	30.0
Chlorobenzene		99.8	79.2	122.7	7.9	30.0
1,1,1,2-Tetrachloroethane		99.9	80.3	128.2	8.1	30.0
Ethylbenzene		100.0	79.5	129.1	7.9	30.0
p,m-Xylene		99.5	79.4	132.2	7.7	30.0
o-Xylene		100.1	80.2	131.0	9.5	30.0
Styrene		99.9	69.5	126.7	10.0	30.0
Isopropylbenzene		101.5	74.4	121.5	7.8	30.0
Bromoform		99.5	69.4	128.0	7.1	30.0
1,1,2,2-Tetrachloroethane		98.6	79.8	126.3	5.3	30.0
1,2,3-Trichloropropane		98.8	78.3	138.8	6.0	30.0
n-Propylbenzene		103.6	82.0	130.7	10.5	30.0
Bromobenzene		99.1	78.7	124.6	9.3	30.0
1,3,5-Trimethylbenzene		100.4	81.3	128.9	8.3	30.0
tert-Butylbenzene		100.8	80.7	128.9	7.9	30.0
1,2,4-Trimethylbenzene		101.1	81.4	130.8	9.3	30.0
sec-Butylbenzene		98.1	77.4	129.8	6.7	30.0
p-Isopropyltoluene		97.8	79.8	137.5	7.1	30.0
1,3-Dichlorobenzene		96.5	77.0	131.3	7.8	30.0
1,4-Dichlorobenzene		96.7	20.7	137.7	9.0	30.0
1,2-Dichlorobenzene		95.6	10.0	166.2	7.3	30.0
1,2,3-Trimethylbenzene		95.8	76.3	124.2	7.4	30.0

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF181024W1 (continued)**

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

**Matrix Spike Duplicate (MSD) (continued)**

Lab Sample ID: 181024A7.9570516N, Parent Sample ID: 181024A7.9570515M

Run in Batch: 181024A7, Run Date: 10/24/2018 13:29, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
n-Butylbenzene		97.1	80.0	133.3	7.9	30.0
Hexachloroethane		97.3	23.8	138.1	7.9	30.0
1,2-Dibromo-3-chloropropane		98.6	21.2	189.4	3.0	30.0
1,2,4-Trichlorobenzene		96.4	27.4	143.4	5.3	30.0
1,2,3-Trichlorobenzene		96.1	75.4	131.4	2.6	30.0
Naphthalene		101.8	32.9	135.8	1.7	30.0
2-Methylnaphthalene		113.8	25.5	165.5	1.7	30.0

**Laboratory Control Sample Duplicate (LCSD)**

Lab Sample ID: 181024A7.LCSDW24A, Parent Sample ID: 181024A7.LCSW24A

Run in Batch: 181024A7, Run Date: 10/24/2018 12:50, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		89.7	67.4	121.2	5.0	30.0
Acetone		83.4	29.9	161.5	1.8	30.0
Methyl iodide		93.3	68.8	116.4	1.3	30.0
Carbon disulfide		88.1	63.8	137.4	7.7	30.0
tert-Methyl butyl ether (MTBE)		89.0	73.2	122.4	7.9	30.0
Acrylonitrile		88.1	69.9	128.9	4.5	30.0
2-Butanone (MEK)		92.4	44.0	134.4	6.0	30.0
Dichlorodifluoromethane		123.0	10.0	222.8	2.8	30.0
Chloromethane		101.2	23.8	166.5	4.0	30.0
Vinyl chloride		102.1	43.5	149.1	3.3	30.0
Bromomethane		96.3	56.8	151.3	3.2	30.0
Chloroethane		94.6	53.4	149.4	1.7	30.0
Trichlorofluoromethane		99.8	59.7	151.8	1.0	30.0
1,1-Dichloroethene		93.1	69.6	139.4	0.2	30.0
Methylene chloride		90.9	73.3	121.1	2.6	30.0
trans-1,2-Dichloroethene		92.6	73.6	129.3	3.5	30.0
1,1-Dichloroethane		92.8	71.5	126.2	2.9	30.0
cis-1,2-Dichloroethene		92.2	76.6	122.1	4.1	30.0
Tetrahydrofuran		87.8	59.0	117.9	3.5	30.0
Chloroform		93.1	78.4	124.0	3.6	30.0
Bromochloromethane		92.5	78.2	120.8	5.6	30.0
1,1,1-Trichloroethane		94.6	79.4	130.9	2.6	30.0
4-Methyl-2-pentanone (MIBK)		90.6	71.6	125.2	7.1	30.0
2-Hexanone		90.9	55.4	136.9	4.4	30.0
Carbon tetrachloride		96.0	72.6	133.0	3.4	30.0
Benzene		94.5	79.9	124.9	1.6	30.0
1,2-Dichloroethane		94.5	76.0	126.3	4.7	30.0
Trichloroethene		94.6	79.7	124.2	1.4	30.0
1,2-Dichloropropane		93.8	78.6	126.4	3.9	30.0
Bromodichloromethane		95.1	80.4	128.2	4.2	30.0
Dibromomethane		95.3	76.9	122.1	7.1	30.0
cis-1,3-Dichloropropene		95.1	79.8	129.9	4.2	30.0
Toluene		93.6	79.8	124.5	3.6	30.0
trans-1,3-Dichloropropene		94.2	74.0	131.3	6.5	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF181024W1 (continued)

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

### Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 181024A7.LCSDW24A, Parent Sample ID: 181024A7.LCSW24A

Run in Batch: 181024A7, Run Date: 10/24/2018 12:50, Prep Date: 10/24/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloroethane		91.9	78.7	123.1	7.6	30.0
Tetrachloroethene	*	72.2	74.5	124.5	3.5	30.0
trans-1,4-Dichloro-2-butene		87.8	68.6	135.4	12.8	30.0
Dibromochloromethane		93.4	74.6	127.2	8.5	30.0
1,2-Dibromoethane		90.0	70.3	133.7	10.9	30.0
Chlorobenzene		93.1	79.2	122.7	6.4	30.0
1,1,1,2-Tetrachloroethane		92.9	80.3	128.2	8.4	30.0
Ethylbenzene		92.4	79.5	129.1	6.2	30.0
p,m-Xylene		92.8	79.4	132.2	6.2	30.0
o-Xylene		91.6	80.2	131.0	7.0	30.0
Styrene		92.5	69.5	126.7	6.4	30.0
Isopropylbenzene		93.1	74.4	121.5	7.2	30.0
Bromoform		92.9	69.4	128.0	11.8	30.0
1,1,2,2-Tetrachloroethane		90.3	79.8	126.3	11.7	30.0
1,2,3-Trichloropropane		90.4	78.3	138.8	10.7	30.0
n-Propylbenzene		93.3	82.0	130.7	8.0	30.0
Bromobenzene		93.2	78.7	124.6	7.4	30.0
1,3,5-Trimethylbenzene		92.4	81.3	128.9	7.7	30.0
tert-Butylbenzene		93.7	80.7	128.9	6.8	30.0
1,2,4-Trimethylbenzene		93.1	81.4	130.8	7.5	30.0
sec-Butylbenzene		92.7	77.4	129.8	5.0	30.0
p-Isopropyltoluene		93.1	79.8	137.5	5.7	30.0
1,3-Dichlorobenzene		92.3	77.0	131.3	6.5	30.0
1,4-Dichlorobenzene		92.0	20.7	137.7	8.2	30.0
1,2-Dichlorobenzene		92.3	10.0	166.2	8.5	30.0
1,2,3-Trimethylbenzene		90.7	76.3	124.2	7.0	30.0
n-Butylbenzene		92.4	80.0	133.3	5.8	30.0
Hexachloroethane		95.0	23.8	138.1	3.7	30.0
1,2-Dibromo-3-chloropropane		92.8	21.2	189.4	6.3	30.0
1,2,4-Trichlorobenzene		94.6	27.4	143.4	10.0	30.0
1,2,3-Trichlorobenzene		95.5	75.4	131.4	7.0	30.0
Naphthalene		94.4	32.9	135.8	7.4	30.0
2-Methylnaphthalene		103.4	25.5	165.5	0.9	30.0



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

C.O.C. PAGE # 1 OF 2

111370

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME: Clifford Yantz  
 COMPANY: O'Brien + Gere  
 ADDRESS: 2260 East Saginaw  
 CITY: East Lansing STATE: MI ZIP CODE: 48823  
 PHONE NO.: 313-333-0211 FAX NO.: P.O. NO.: QUOTE NO.:  
 E-MAIL ADDRESS: clifford.yantz@obg.com

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 Hemphill Rd SA  
 SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schmidt  
 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: VOCs, TRAL As, Ba, Pb, Se, Zn, Dissolved As, Ba, Pb, Se, Zn  
 Certifications:  OHIO VAP  Drinking Water  
 DoD  NPDES  
 Project Locations:  Detroit  New York  
 Other  
 Special Instructions:

MERIT LAB NO. FOR LAB USE ONLY	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	VOCs			Special Instructions
	DATE	TIME											TRAL	As, Ba, Pb, Se, Zn	Dissolved	
95705.01	10/15/18	1027	OBG MW-7S	GW	5		3	2					X	X	X	Dissolved metals were field filtered
.02		1228	OBG MW-7D										X	X	X	
.03		1335	OBG MW-1S										X	X	X	
.04		1335	OBG MW-1S Collocated										X	X	X	
.05	10/16/18	1227	OBG MW-6D										X	X	X	
.06		1328	OBG MW-2S										X	X	X	
.07		1442	OBG MW-2D										X	X	X	
.08		1557	OBG MW-5S										X	X	X	
.09		1717	OBG MW-3S										X	X	X	
.10			DUP-1										X	X	X	
.11	10/17/18	956	OBG-05-MW-3										X	X	X	
.12		1052	OBG-05-MW-4										X	X	X	

RELINQUISHED BY: [Signature] OBG Sampler DATE: 10/17/18 TIME: 1500  
 RECEIVED BY: [Signature] DATE: 10/17/18 TIME: 1510  
 RELINQUISHED BY: [Signature] DATE: 10/17/18 TIME: 1515  
 RECEIVED BY: [Signature] DATE: 10/17/18 TIME: 1535

RELINQUISHED BY: DATE: TIME:  
 RECEIVED BY: DATE: TIME:  
 SEAL NO. SEAL INTACT YES  NO  INITIALS  
 SEAL NO. SEAL INTACT YES  NO  INITIALS  
 NOTES: TEMP. ON ARRIVAL: 5.0

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



