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HEMPHILL ROAD INDUSTRIAL LAND

APRIL 2021 SEMIANNUAL

GROUNDWATER SAMPLING REPORT



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HEMPHILL ROAD INDUSTRIAL LAND APRIL 2021 SEMIANNUAL GROUNDWATER SAMPLING REPORT

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1. INTRODUCTION

This report serves as a summary for the first semiannual 2021 groundwater sampling event conducted in April 2021 at the Revitalizing Auto Communities Environmental Response (RACER) Trust Hemphill Road Industrial Land (HRIL) facility located in Burton, Michigan (Site). Semiannual groundwater sampling was conducted to document groundwater quality for the Site and allow for evaluation of possible concentration trends.

The results from this event support the conclusions and recommendations in the draft No Further Action (NFA) Report, which was submitted to EGLE on November 28, 2019.

Further it is requested that the frequency of the non-PFAS groundwater monitoring activities covered in this report be reduced to annually, with the next monitoring event to be completed in about April 2022.

2. GROUNDWATER SAMPLING

The first semiannual 2021 groundwater sampling was performed utilizing the following sampling protocols. During this event samples were also collected for Per- and polyfluoroalkyl substances (PFAS) analysis. Details of the PFAS sampling will be provided in a separate report.

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.

The shallow and deep groundwater elevations are depicted on [Figure 2](#) (Shallow/April 2021) and [Figure 3](#) (Deep/April 2021), respectively. Groundwater in the shallow zone appears to be under water table conditions and flow is predominantly toward the east near OBG MW-7S and more southeast in the southern portion of the Site as shown on [Figure 2](#). Groundwater in the drift (deep) unit appears to flow in a northerly direction as shown on [Figure 3](#).

Groundwater samples for the semiannual 2021 sampling event were collected between April 21, 2021 and April 26, 2021. 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 (screened [sand pack] in fill material), 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).

The following wells were not sampled as part of the routine semiannual sampling event. Samples were not collected from wells MW-401 and MW-403 (installed by others) because the screen lengths of these wells are greater than 10 ft in length. Groundwater samples were not collected from OBG MW-4S and OBG MW-10 because of the presence of Light Non-Aqueous Phase Liquid (LNAPL) in these wells. Also, samples were not collected from wells OBG MW-8, OBG MW-9, 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, and OBG MW-10. LNAPL was also observed on the water level probe at OBG MW-5S during low flow sampling. LNAPL was not detected in monitoring wells MW-403, OBG MW-8, OBG MW-9, and OBG MW-11, which are screened in waste fill. A summary of the LNAPL gauging results are presented in [Table 3](#).

Low flow groundwater sampling was performed in accordance with USEPA, *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (EPA/540/S-95/504) and the USEPA Region 1 (July 30, 1996, Revision 4) *Low Stress (Low-Flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells*.

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® turbidity meter.

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. For these wells, the purge rate was maintained at a maximum of 100 milliliters per minute [ml/min]; however, a drawdown of more than 0.3 ft was observed. Groundwater sample logs are included in [Exhibit A](#).

Purging continued until the water quality parameters stabilized within the USEPA Low Stress Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells over a 5-minute period. Once stabilized, the pumping rate was reduced (when possible) and the flow-through cell was disconnected. Samples were collected directly into laboratory supplied containers. The sample container selection and preservation techniques followed EGLE Remediation and Redevelopment Division (RRD) Standard Operating Procedure for Sample Preservation, Sample Handling, and Holding Time (RRD-34).

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 for VOCs were collected and included a blind duplicate, field 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 was collected from OBG MW-5S. The duplicate sample results compared closely with the original sample results indicating good reproducibility. Furthermore, the various blank samples collected during sampling were non-detect indicating that cross-contamination was not an issue for this sampling event.

3. GROUNDWATER SAMPLING RESULTS

Analytical results for this event indicate VOCs were not detected above method detection limits, except at offsite monitoring wells OBG OS-MW-4, and OBG OS-MW-5 (which are screened in fill material).

All detected concentrations are below the EGLE Part 201 Generic Residential Drinking Water criteria. The concentrations for isopropylbenzene (8 µg/l), and naphthalene (15 µg/l) at OBG OS-MW-4 were above the EGLE Site Specific Volatilization to Indoor Air (VIAC) Residential Groundwater Not in Contact Criteria (GWNIC) for (0.60 µg/l) isopropylbenzene, and (4.2 µg/l) naphthalene. The analytical results for the first semiannual event are summarized on [Table 4](#) and the groundwater analytical data sheets are included in [Exhibit B](#).

The samples were analyzed for both total and dissolved metals. During the April sampling the dissolved sample results were all less than and within 20 percent of the total sample results except for the following:

- OBG MW-3 arsenic dissolved result (4 µg/l) was 22 percent less than the total result (5 µg/l)
- OBG OS-MW-1 arsenic dissolved result (26 µg/l) was 37 percent less than the total result (38 µg/l)
- OBG OS-MW-2 lead dissolved result (<1.5 µg/l – half the reporting limit) was 107 percent less than the total result (5 µg/l); zinc dissolved result (8 µg/l) was 47 percent less than the total result (13 µg/l)

Selenium and zinc were not detected above the method detection limits or detections were below the EGLE Part 201 Generic Residential Drinking Water criteria.

Lead concentrations were below the method detection limit except at OBG OS-MW-2, which had a total lead result of 5 µg/l and the dissolved lead result was non-detect.

Analytical results for arsenic levels at or above the EGLE Part 201 Generic Residential and Nonresidential 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 well is reported herein):

- Onsite monitoring wells: OBG MW-2S (17 µg/l), OBG MW-2D (28 µg/l), OBG MW- 6S (16 µg/l), OBG MW- 6D (18 µg/l), OBG MW-7S (12 µg/l), and OBG MW-7D (34 µg/l)
- Offsite monitoring wells: OBG OS-MW-1 (38 µg/l), OBG OS-MW-2 (55 µg/l), and OBG OS-MW-3 dissolved sample (22 µg/l)

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

- Offsite monitoring well: OBG OS MW-5 (2,260 µg/l).

A figure depicting the April 2021 groundwater results above EGLE criteria is included as [Figure 4](#).

4. SUMMARY

The results from this event support the conclusions and recommendations in the November 28, 2019 draft No Further Action (NFA) Report.

The results of the April 2021 semiannual groundwater sampling event are comparable to the previous results. Concentrations of arsenic were detected above the EGLE 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 reducing conditions not caused by Site related impacts and do not appear to be leaching from the fill material. In addition, barium and lead concentrations were detected in offsite wells above the EGLE Part 201 Nonresidential Drinking Water criteria, which appear to be related to the fill material in these locations and not a result of groundwater migrating from the Site. On-site exceedances can be addressed with a resource use restriction for Site groundwater provided in the No Further Action (NFA) report.

Concentrations of VOCs were only detected above method detection limits at two offsite wells (OBG OS-MW-4 and OBG OS-MW-5) during the April 2021 event and these results appear to be related to the fill material in these areas. These detections are below their EGLE Part 201 Nonresidential Drinking Water criteria.

Review of the groundwater analytical data for this semiannual sampling event and historical data indicates groundwater constituents and concentrations at offsite wells (OBG OS-MW-4 and OBG OS-MW-5) are mostly different than those detected at the HRIL Site. Therefore, impacted groundwater and fill material at the HRIL Site does not appear to be the source for contaminant concentrations detected offsite to the east or south.

As presented in **Table 3**, LNAPL thickness was considered immeasurable in wells MW-401, OBG MW-4S, and OBG MW-10 due to either minimal thickness of LNAPL or LNAPL coating the probe which prevented an accurate measurement.

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

TABLES



TABLE 1
RACER Trust - Hemphill Road Industrial Land
Monitoring Well Construction Details

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
ONSITE WELLS								
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
OFFSITE WELLS								
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.
- 6) ** - Monitoring well is screened in waste fill.



**TABLE 2
RACER Trust - Hemphill Road Industrial Land
Groundwater Elevation Data**

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)
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
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
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
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
OBG MW-4S	769.15	--	--	--	--	14.30	754.85	14.55	754.60	14.52	754.63
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
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
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
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
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
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
RACER Trust - Hemphill Road Industrial Land
Groundwater Elevation Data

Well	Top of Casing Elevation (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)	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)
OBG MW-1S	777.64	13.18	764.46	12.28	765.36	13.60	764.04	--	--	12.69	764.95
OBG MW-2S	775.33	11.03	764.30	9.76	765.57	11.48	763.85	--	--	10.32	765.01
OBG MW-2D	775.19	21.26	753.93	20.57	754.62	21.28	753.91	--	--	20.21	754.98
OBG MW-3 **	777.31	22.87	754.44	22.77	754.54	22.78	754.53	--	--	22.73	754.58
OBG MW-4S	769.15	14.6	754.57	14.35	754.80	--	--	--	--	--	--
OBG MW-5S	771.00	15.93	755.07	15.47	755.53	15.80	755.20	--	--	15.59	755.41
OBG MW-6S	772.70	14.62	758.08	12.42	760.28	14.94	757.76	--	--	13.79	758.91
OBG MW-6D	772.69	18.96	753.73	18.04	754.65	19.21	753.48	--	--	18.10	754.59
OBG MW-7S	766.30	8.37	757.93	7.26	759.04	8.85	757.45	--	--	7.81	758.49
OBG MW-7D	766.36	13.73	752.63	12.95	753.41	13.93	752.43	--	--	12.64	753.72
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	--	--
OBG OS MW-2	776.67	--	--	--	--	--	--	21.43	755.24	--	--
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
RACER Trust - Hemphill Road Industrial Land
Groundwater Elevation Data**

Well	Top of Casing Elevation (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)	Depth To Water 10/29/2015 (ft btoc)	Static Water Elevation 10/29/2015 (ft amsl)
OBG MW-1S	777.64	--	--	--	--	12.44	765.20	12.64	765.00	12.75	764.89
OBG MW-2S	775.33	--	--	--	--	10.29	765.04	10.59	764.74	10.77	764.56
OBG MW-2D	775.19	--	--	--	--	20.42	754.77	19.90	755.29	19.94	755.25
OBG MW-3 **	777.31	--	--	--	--	22.54	754.77	22.85	754.46	22.77	754.54
OBG MW-4S	769.15	--	--	--	--	14.6	754.58	--	--	--	--
OBG MW-5S	771.00	--	--	--	--	15.84	755.16	15.61	755.39	15.40	755.60
OBG MW-6S	772.70	--	--	--	--	14.49	758.21	14.22	758.48	14.72	757.98
OBG MW-6D	772.69	--	--	--	--	18.06	754.63	17.54	755.15	17.70	754.99
OBG MW-7S	766.30	--	--	--	--	8.37	757.93	8.25	758.05	8.43	757.87
OBG MW-7D	766.36	--	--	--	--	12.91	753.45	12.35	754.01	12.44	753.92
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	--	--	--	--	22.17	754.40	21.95	754.62	22.24	754.33
OBG OS MW-2	776.67	--	--	--	--	21.58	755.09	21.34	755.33	21.73	754.94
OBG OS MW-3	782.89	25.39	757.50	25.52	757.37	25.89	757.00	25.99	756.90	26.06	756.83
OBG OS MW-4	779.00	24.29	754.71	24.34	754.66	24.48	754.52	24.40	754.60	24.25	754.75
OBG OS MW-5	779.38	24.71	754.67	24.79	754.59	24.91	754.47	24.82	754.56	24.67	754.71

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
RACER Trust - Hemphill Road Industrial Land
Groundwater Elevation Data**

Well	Top of Casing Elevation (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)
OBG MW-1S	777.64	11.45	766.19	--	--	12.89	764.75	11.28	766.36	13.05	764.59
OBG MW-2S	775.33	9.16	766.17	--	--	10.38	764.95	8.83	766.50	10.93	764.40
OBG MW-2D	775.19	18.83	756.36	--	--	21.02	754.17	18.83	756.36	20.65	754.54
OBG MW-3 **	777.31	22.47	754.84	--	--	23.05	754.26	23.00	754.31	23.15	754.16
OBG MW-4S	769.15	--	--	--	--	--	--	13.90	755.25	14.55	754.60
OBG MW-5S	771.00	15.17	755.83	--	--	15.80	755.20	14.90	756.10	15.91	755.09
OBG MW-6S	772.70	12.70	760.00	--	--	14.53	758.17	11.71	760.99	14.90	757.80
OBG MW-6D	772.69	16.99	755.70	--	--	17.96	754.73	16.60	756.09	18.30	754.39
OBG MW-7S	766.30	7.27	759.03	--	--	8.14	758.16	6.70	759.60	8.17	758.13
OBG MW-7D	766.36	11.35	755.01	--	--	13.47	752.89	11.34	755.02	13.51	752.85
OBG MW-8	771.21	--	--	16.30	754.91	--	--	15.08	756.13	16.40	754.81
OBG MW-9	770.93	--	--	16.42	754.51	--	--	14.45	756.48	16.19	754.74
OBG MW-10	768.96	--	--	--	--	--	--	12.99	755.97	14.30	754.66
OBG MW-11	775.64	--	--	18.30	757.34	--	--	15.79	759.85	17.90	757.74
OBG OS MW-1	776.57	21.40	755.17	--	--	21.71	754.86	21.25	755.32	22.10	754.47
OBG OS MW-2	776.67	20.49	756.18	--	--	21.18	755.49	20.34	756.33	21.48	755.19
OBG OS MW-3	782.89	25.10	757.79	--	--	26.33	756.56	24.76	758.13	26.35	756.54
OBG OS MW-4	779.00	23.91	755.09	--	--	24.52	754.48	23.85	755.15	24.70	754.30
OBG OS MW-5	779.38	24.33	755.05	--	--	24.94	754.44	24.25	755.13	25.06	754.32

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
RACER Trust - Hemphill Road Industrial Land
Groundwater Elevation Data**

Well	Top of Casing Elevation (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)	Depth To Water 4/29/2019 (ft btoc)	Static Water Elevation 4/29/2019 (ft amsl)	Depth To Water 10/1/2019 (ft btoc)	Static Water Elevation 10/1/2019 (ft amsl)	Depth To Water 6/29/2020 (ft btoc)	Static Water Elevation 6/29/2020 (ft amsl)
OBG MW-1S	777.64	11.08	766.56	12.35	765.29	11.67	765.97	12.89	764.75	12.31	765.33
OBG MW-2S	775.33	8.91	766.42	10.19	765.14	9.19	766.14	10.95	764.38	10.35	764.98
OBG MW-2D	775.19	18.94	756.25	20.14	755.05	18.81	756.38	19.95	755.24	19.10	756.09
OBG MW-3 **	777.31	22.93	754.38	23.23	754.08	23.00	754.31	23.05	754.26	23.08	754.23
OBG MW-4S	769.15	13.85	755.30	14.29	754.86	14.30	754.85	--	--	--	--
OBG MW-5S	771.00	15.20	755.80	15.66	755.34	15.49	755.51	15.88	755.12	15.70	755.30
OBG MW-6S	772.70	12.36	760.34	14.38	758.32	12.86	759.84	14.55	758.15	14.20	758.50
OBG MW-6D	772.69	16.70	755.99	17.95	754.74	16.49	756.20	17.75	754.94	16.85	755.84
OBG MW-7S	766.30	6.55	759.75	8.13	758.17	7.18	759.12	7.80	758.50	7.95	758.35
OBG MW-7D	766.36	11.43	754.93	12.56	753.80	11.24	755.12	12.42	753.94	11.55	754.81
OBG MW-8	771.21	15.16	756.05	15.63	755.58	15.45	755.76	16.31	754.90	15.45	755.76
OBG MW-9	770.93	14.44	756.49	15.65	755.28	14.44	756.49	15.96	754.97	14.72	756.21
OBG MW-10	768.96	12.99	755.97	13.61	755.35	13.22	755.74	--	--	13.80	755.16
OBG MW-11	775.64	16.29	759.35	17.15	758.49	16.20	759.44	17.21	758.43	17.09	758.55
OBG OS MW-1	776.57	21.29	755.28	21.98	754.59	21.20	755.37	--	--	21.95	754.62
OBG OS MW-2	776.67	20.30	756.37	21.24	755.43	20.35	756.32	21.31	755.36	21.11	755.56
OBG OS MW-3	782.89	25.05	757.84	26.16	756.73	24.95	757.94	25.81	757.08	25.39	757.50
OBG OS MW-4	779.00	23.99	755.01	24.61	754.39	24.10	754.90	24.60	754.40	24.49	754.51
OBG OS MW-5	779.38	24.36	755.02	24.97	754.41	24.47	754.91	24.96	754.42	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.

TABLE 2
RACER Trust - Hemphill Road Industrial Land
Groundwater Elevation Data

Well	Top of Casing Elevation (ft amsl)	Depth To Water 10/27/2020 (ft btoc)	Static Water Elevation 10/27/2020 (ft amsl)	Depth To Water 4/21/2021 (ft btoc)	Static Water Elevation 4/21/2021 (ft amsl)
OBG MW-1S	777.64	12.98	764.66	12.49	765.15
OBG MW-2S	775.33	10.75	764.58	10.11	765.22
OBG MW-2D	775.19	20.26	754.93	19.12	756.07
OBG MW-3 **	777.31	23.16	754.15	23.11	754.20
OBG MW-4S	769.15	--	--	--	--
OBG MW-5S	771.00	15.71	755.29	15.65	755.35
OBG MW-6S	772.70	14.44	758.26	13.85	758.85
OBG MW-6D	772.69	17.91	754.78	16.85	755.84
OBG MW-7S	766.30	7.84	758.46	7.82	758.48
OBG MW-7D	766.36	12.76	753.60	11.64	754.72
OBG MW-8	771.21	16.34	754.87	15.76	755.45
OBG MW-9	770.93	15.75	755.18	15.14	755.79
OBG MW-10	768.96	--	--	--	--
OBG MW-11	775.64	17.58	758.06	17.08	758.56
OBG OS MW-1	776.57	22.02	754.55	21.79	754.78
OBG OS MW-2	776.67	21.25	755.42	20.98	755.69
OBG OS MW-3	782.89	26.06	756.83	25.82	757.07
OBG OS MW-4	779.00	24.53	754.47	24.50	754.50
OBG OS MW-5	779.38	24.88	754.50	24.85	754.53

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 3
RACER Trust - Hemphill Road Industrial Land
LNAPL Observation/Removal Logs

Date	Approximate Depth to LNAPL (ft)	Depth to Water (ft)	Approximate LNAPL Thickness (ft)	Approximate Volume of LNAPL Removed	Absorbent Sock Installed
OBG MW-4S (Installed 11-2010)					
12/20/2010	IM	--	4.00	--	yes
2/25/2011	14.40	18.40	4.00	--	yes
5/13/2011	14.50	18.63	4.13	3-4 gal.	yes
6/24/2011	14.19	15.18	0.99	1-2 gal.	yes
7/29/2011	14.30	14.62	0.32	0.3-0.5 gal	yes
9/2/2011	14.43	14.51	0.08	<0.2 gal	yes
3/22/2012	IM	14.30	--	--	yes
6/13/2012	IM	14.55	--	--	yes
9/21/2012	IM	14.52	--	--	yes
12/18/2012	IM	14.60	--	--	yes
4/16/2013	14.35	14.91	0.56	<0.2 gal	yes
10/15/2013	14.49	14.60	0.11	--	yes
4/24/2014	IM	--	--	--	yes
10/14/2014	IM	--	--	--	yes
5/28/2015	IM	--	--	--	
10/29/2015	IM	14.49	--	--	
4/13/2016	IM	--	--	--	
9/9/2016*	IM	14.61	--	--	
10/21/2016*	IM	14.60	--	--	
2/15/2017*	IM	14.29	--	--	
4/11/2017*	13.90	14.40	0.50	--	
10/18/2017	IM	14.55	--	--	
4/18/2018	IM	13.85	--	--	
10/17/2018	IM	14.51	--	--	
4/30/2019	IM	14.30	--	--	
10/1/2019	IM	--	--	--	
6/29/2020	IM	--	--	--	
11/2/2020	IM	14.15	--	--	
4/26/2021	IM	14.20	--	--	
OBG MW-10 (Installed 6-2016)					
6/10/2016	IM	13.85	--	--	
9/9/2016	14.28	14.47	0.19	<0.2 gal	
10/20/2016	13.95	14.50	0.55	<0.5 gal	
2/15/2017	IM	13.61	--	--	
4/11/2017	IM	12.99	--	--	
10/18/2017	IM	14.30	--	--	
4/18/2018	IM	12.99	--	--	
10/17/2018	IM	14.09	--	--	
4/30/2019	IM	13.22	--	--	
10/1/2019	IM	--	--	--	
6/29/2020	IM	13.80	--	--	
11/2/2020	IM	14.30	--	--	
4/26/2021	IM	14.33	--	--	
MW-401 (Installed 5-1988)					
5/18/1988	UNK	12.00	--	--	
1st quarter 1993	UNK	15.26	--	--	
2nd quarter 1993	UNK	15.53	--	--	
3rd quarter 1993	UNK	15.57	--	--	
4th quarter 1993	UNK	15.85	--	--	
1st quarter 1994	UNK	15.66	--	--	
2nd quarter 1994	UNK	15.57	--	--	
3rd quarter 1994	UNK	15.69	--	--	
4th quarter 1994	UNK	15.52	--	--	
1st quarter 1995	UNK	15.50	--	--	
2nd quarter 1995	UNK	15.60	--	--	
4th quarter 1995	UNK	16.10	--	--	

**TABLE 3
RACER Trust - Hemphill Road Industrial Land
LNAPL Observation/Removal Logs**

Date	Approximate Depth to LNAPL (ft)	Depth to Water (ft)	Approximate LNAPL Thickness (ft)	Approximate Volume of LNAPL Removed	Absorbent Sock Installed
MW-401 (Continued) (Installed 5-1988)					
1st quarter 1996	UNK	13.72	--	--	
2nd quarter 1996	UNK	13.70	--	--	
3rd quarter 1996	UNK	13.77	--	--	
4th quarter 1996	UNK	13.65	--	--	
5/7/1998	IM	15.00	--	--	
12/13/1999	14.45	14.95	0.50	--	yes
2/22/2000	IM	14.65	--	--	yes
10/30/2000	IM	13.95	--	--	yes
3/28/2001	IM	14.64	--	--	yes
7/2/2001	IM	13.31	0.50	--	yes
9/31/2001	IM	13.30	--	--	yes
12/27/2001	IM	14.74	0.25	--	
4/4/2002	IM	14.64	--	--	
3/20/2003	IM	14.98	0.30	<0.5 gal	
6/20/2003	IM	13.60	--	<0.2 gal	
9/30/2003	IM	13.74	--	<0.2 gal	
12/16/2003	IM	13.60	--	<0.2 gal	
3/10/2004	IM	13.47	--	<0.2 gal	
6/10/2004	IM	17.30	--	<0.2 gal	
9/15/2004	IM	17.41	--	<0.2 gal	
12/21/2004	IM	13.51	--	<0.2 gal	
3/31/2005	IM	17.80	--	<0.2 gal	
6/8/2005	IM	14.65	--	<0.2 gal	
9/29/2005	IM	14.10	--	<0.2 gal	
12/29/2005	IM	13.81	--	<0.2 gal	
3/22/2012	IM	14.70	--	--	
6/13/2012	IM	13.30	--	<0.2 gal	
9/20/2012	IM	13.30	--	<0.2 gal	
12/18/2012	13.20	13.30	0.10	<0.2 gal	
4/16/2013	IM	12.99	--	<0.2 gal	
10/15/2013	IM	12.99	--	<0.2 gal	
4/24/2014	IM	14.70	--	--	
10/14/2014	IM	13.13	--	--	yes
5/28/2015	IM	--	--	--	
10/29/2015	IM	--	--	--	
4/13/2016	IM	--	--	--	
9/9/2016*	13.35	14.50	1.15	Approx. 0.5 gal	
10/20/2016*	13.20	13.90	0.60	<0.2 gal	
2/15/2017*	IM	--	0.60	<0.2 gal	
4/11/2017*	13.85	14.60	0.75	<0.2 gal	
10/18/2017	IM	13.35	0.60	--	
4/18/2018	IM	--	--	--	
10/17/2018	IM	--	--	--	
4/30/2019	IM	12.80	--	--	
10/1/2019	IM	--	--	--	
6/29/2020	IM	--	--	--	
11/2/2020	IM	12.90	--	--	
4/27/2021	IM	12.80	--	--	

Notes:

- 1) LNAPL = denotes Light Non-Aqueous Phase Liquid.
- 2) Depth to LNAPL and water measured from Top-of-casing.
- 3) * = absorbent sock placed in well, and denotes LNAPL measurement estimated from absorbent sock liner smear.
- 4) IM = denotes immeasurable amount of LNAPL, no measurement could be collected either due to minimal thickness of LNAPL or LNAPL coating the probe not allowing for
- 5) UNK = denotes unknown.

TABLE 4
RACER Trust - Hemphill Road Industrial Land
Groundwater Analytical Results - April 2021

Monitoring Well Sample Date	ONSITE WELLS										EGLE Part 201 Generic Criteria		EGLE Site Specific Criteria	
	OBG MW-1S		OBG MW-2S		OBG MW-2D		OBG MW-3		*OBG MW-5S		Residential Drinking Water	Non-Residential Drinking Water	Residential VIAC GWNIC	Nonresidential VIAC GWNIC
	4/21/2021	4/21/2021	4/21/2021	4/21/2021	4/21/2021	4/21/2021	4/23/2021	4/23/2021						
Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved					
Metals														
Arsenic	<2	<2	17	14	28	26	5	4	4	4	10 (A)	10 (A)	--	--
Barium	173	171	183	171	226	222	166	156	946	1,030	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	<5	<5	2,400	5,000 (E)	--	--
VOCs	DO/ORP:	2.57	53.6	1.72	14.5	0.75	-8.1	0.09	51.8	0.15	-1.4			
Acetone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	730	2,100	--	--
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	--	--
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	1.0 ca	420 ca
n-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80	230	44 nc	12,000 (S) sol
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	18	50	--	--
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	--	--
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)	--	--
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)	--	--
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	10	29	--	--
sec-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80	230	270 nc	18,000 (S) sol
tert-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80	230	7.7E-02 (M) nc	25 nc
Carbon disulfide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	800	2,300	--	--
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	--	--
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	100 (A)	100 (A)	--	--
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	430	1,700	--	--
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)	--	--
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	260	1,100	--	--
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	880	2,500	4.7 ca	2,000 ca
1,1-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	7 (A)	7 (A)	18 nc	3,200 nc
1,2-Dibromo-3-chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.2 (A)	0.2 (A)	--	--
1,2-Dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.05 (A)	0.05 (A)	--	--
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	600 (A)	600 (A)	--	--
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	1.4 ca	620 ca
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	--	--
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)	--	--
cis-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	70 (A)	70 (A)	3.4 nc	900 nc
cis-1,3-Dichloropropene ³	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8.5	35	--	--
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	80 (A,W)	80 (A,W)	--	--
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	80	230	--	--
Dichlorodifluoromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1,700	4,800	--	--
Diethyl ether	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	10 (E)	10 (E)	--	--
trans-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	100 (A)	100 (A)	13 nc	3,700 nc
trans-1,3-Dichloropropene ³	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8.5	35	--	--
trans-1,4-Dichloro-2-butene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	na	na	--	--
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	74 (E)	74 (E)	2.8 ca	1,400 ca
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	1,000	2,900	--	--
Hexachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7.3	21	--	--
p-Isopropyltoluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA	--	--
Isopropylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	800	2,300	0.60 (M) ca	300 ca
2-Methylnaphthalene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	260	750	66 nc	24,000 nc
4-Methyl-2-pentanone (MIBK)	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	1,800	5,200	--	--
tert-Methyl butyl ether (MTBE)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	40 (E)	40 (E)	250 ca	1.2E+05 ca
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	--	--
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5 (A)	5 (A)	--	--
Naphthalene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	520	1,500	4.2 (M) ca	2,200 ca
n-Propylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80	230	43 (SE) dev	52,000 (SE) dev
Styrene	<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	--	--
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	200 (A)	200 (A)	--	--
1,1,2,2-Tetrachloroethane	<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)	--	--
1,2,3-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA	43 nc	15,000 nc
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	42	120	--	--
1,2,3-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	--	--
1,2,4-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	70 (A)	70 (A)	25 nc	8,300 nc
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	63 (E)	63 (E)	--	--
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	72 (E)	72 (E)	18 nc	5,900 nc
Tetrahydrofuran	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5.0 (A)	5.0 (A)	1.5 (SE) st	1,200 (SE) st
Tetrahydrofuran	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	95	270	45,000 nc	9.9E+06 nc
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	790 (E)	790 (E)	300 (SE) st	4.2E+05 (SE) st
Trichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	7.3-02 (M)(SE) dev	78 (SE) dev
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2,600	7,300	--	--
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.0 (A)	2.0 (A)	0.12 (M) mut	100 ca
o-Xylene ⁴	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	280 (E)	280 (E)	75 nc	23,000 nc
p,m-Xylene ⁴	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	280 (E)	280 (E)	75 nc	23,000 nc

Notes:

Units are µg/L.

* - indicates monitoring well is screened in fill.

Criteria are for total 1,3-Dichloropropene, values for cis and trans should be summed and compared against the appropriate criterion.

Criteria are for total xylenes, values for p,m- and o- should be summed and compared against the appropriate criterion.

Detections are shown in bold type.

Highlighted value denotes an analytical value that exceeds criteria or a criterion that has been exceeded.

(A) - Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.

(E) - Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

(L) - Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(9) of the NREPA.

(W) - Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 µg/L.

'na' - means a criterion or value is not available or, in the case of background and CAS numbers, not applicable.



TABLE 4
RACER Trust - Hemphill Road Industrial Land
Groundwater Analytical Results - April 2021

Monitoring Well Sample Date	ONSITE WELLS (CONTINUED)								EGLE Part 201 Generic Criteria		EGLE Site Specific Criteria		
	OBG MW-6S		OBG MW-6D		OBG MW-7S		OBG MW-7D		Residential Drinking Water	Non-Residential Drinking Water	Residential VIAC GWNIC	Nonresidential VIAC GWNIC	
	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved					
Metals													
Arsenic		16	16	18	16	12	10	34	31	10 (A)	10 (A)	--	--
Barium	156	153	78	78	206	205	90	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	<5	<5	<5	<5	<5	<5	2,400	5,000 (E)	--	--	
VOCs	DO/ORP:	3.28	44.7	3.03	-14.2	5.88	-32.4	0.14	-106.0				
Acetone	<50	<50	<50	<50	<50	<50	<50	<50	730	2,100	--	--	
Acrylonitrile	<2	<2	<2	<2	<2	<2	<2	<2	2.6	11	--	--	
2-Butanone (MEK)	<25	<25	<25	<25	<25	<25	<25	<25	13,000	38,000	--	--	
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	1.0 ca	420 ca	
n-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	80	230	44 nc	12,000 (S) sol	
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	<1	18	50	--	--	
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	--	--	
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)	--	--	
Bromofrom	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)	--	--	
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5	10	29	--	--	
sec-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	80	230	270 nc	18,000 (S) sol	
tert-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	80	230	7.7E-02 (M) nc	25 nc	
Carbon disulfide	<5	<5	<5	<5	<5	<5	<5	<5	800	2,300	--	--	
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	--	--	
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	100 (A)	100 (A)	--	--	
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5	430	1,700	--	--	
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)	--	--	
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5	260	1,100	--	--	
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	880	2,500	4.7 ca	2,000 ca	
1,1-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	7 (A)	7 (A)	18 nc	3,200 nc	
1,2-Dibromo-3-chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	0.2 (A)	0.2 (A)	--	--	
1,2-Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	0.05 (A)	0.05 (A)	--	--	
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	600 (A)	600 (A)	--	--	
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	1.4 ca	620 ca	
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	--	--	
1,3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	6.6	19	--	--	
1,4-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	75 (A)	75 (A)	--	--	
cis-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	70 (A)	70 (A)	3.4 nc	900 nc	
cis-1,3-Dichloropropene ³	<1	<1	<1	<1	<1	<1	<1	<1	8.5	35	--	--	
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	80 (A,W)	80 (A,W)	--	--	
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5	80	230	--	--	
Dichlorodifluoromethane	<5	<5	<5	<5	<5	<5	<5	<5	1,700	4,800	--	--	
Diethyl ether	<10	<10	<10	<10	<10	<10	<10	<10	10 (E)	10 (E)	--	--	
trans-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	100 (A)	100 (A)	13 nc	3,700 nc	
trans-1,3-Dichloropropene ³	<1	<1	<1	<1	<1	<1	<1	<1	8.5	35	--	--	
trans-1,4-Dichloro-2-butene	<1	<1	<1	<1	<1	<1	<1	<1	na	na	--	--	
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	74 (E)	74 (E)	2.8 ca	1,400 ca	
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50	1,000	2,900	--	--	
Hexachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	7.3	21	--	--	
p-Isopropyltoluene	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA	--	--	
Isopropylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	800	2,300	0.60 (M) ca	300 ca	
2-Methylnaphthalene	<5	<5	<5	<5	<5	<5	<5	<5	260	750	66 nc	24,000 nc	
4-Methyl-2-pentanone (MIBK)	<50	<50	<50	<50	<50	<50	<50	<50	1,800	5,200	--	--	
tert-Methyl butyl ether (MTBE)	<5	<5	<5	<5	<5	<5	<5	<5	40 (E)	40 (E)	250 ca	1.2E+05 ca	
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	--	--	
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	5 (A)	5 (A)	--	--	
Naphthalene	<5	<5	<5	<5	<5	<5	<5	<5	520	1,500	4.2 (M) ca	2,200 ca	
n-Propylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	80	230	43 (SE) dev	52,000 (SE) dev	
Styrene	<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	77	320	--	--	
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	200 (A)	200 (A)	--	--	
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	8.5	35	--	--	
1,1,2-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	5.0 (A)	5.0 (A)	--	--	
1,2,3-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA	43 nc	15,000 nc	
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	42	120	--	--	
1,2,3-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	--	--	
1,2,4-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	70 (A)	70 (A)	25 nc	8,300 nc	
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	63 (E)	63 (E)	--	--	
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	72 (E)	72 (E)	18 nc	5,900 nc	
Tetrachloroethene	<1	<1	<1	<1	<1	<1	<1	<1	5.0 (A)	5.0 (A)	1.5 (SE) st	1,200 (SE) st	
Tetrahydrofuran	<90	<90	<90	<90	<90	<90	<90	<90	95	270	45,000 nc	9.9E+06 nc	
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	790 (E)	790 (E)	300 (SE) st	4.2E+05 (SE) st	
Trichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	7.3-02 (M)(SE) dev	78 (SE) dev	
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	2,600	7,300	--	--	
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	2.0 (A)	2.0 (A)	0.12 (M) mut	100 ca	
o-Xylene ⁴	<1	<1	<1	<1	<1	<1	<1	<1	280 (E)	280 (E)	75 nc	23,000 nc	
p,m-Xylene ⁴	<2	<2	<2	<2	<2	<2	<2	<2	280 (E)	280 (E)	75 nc	23,000 nc	

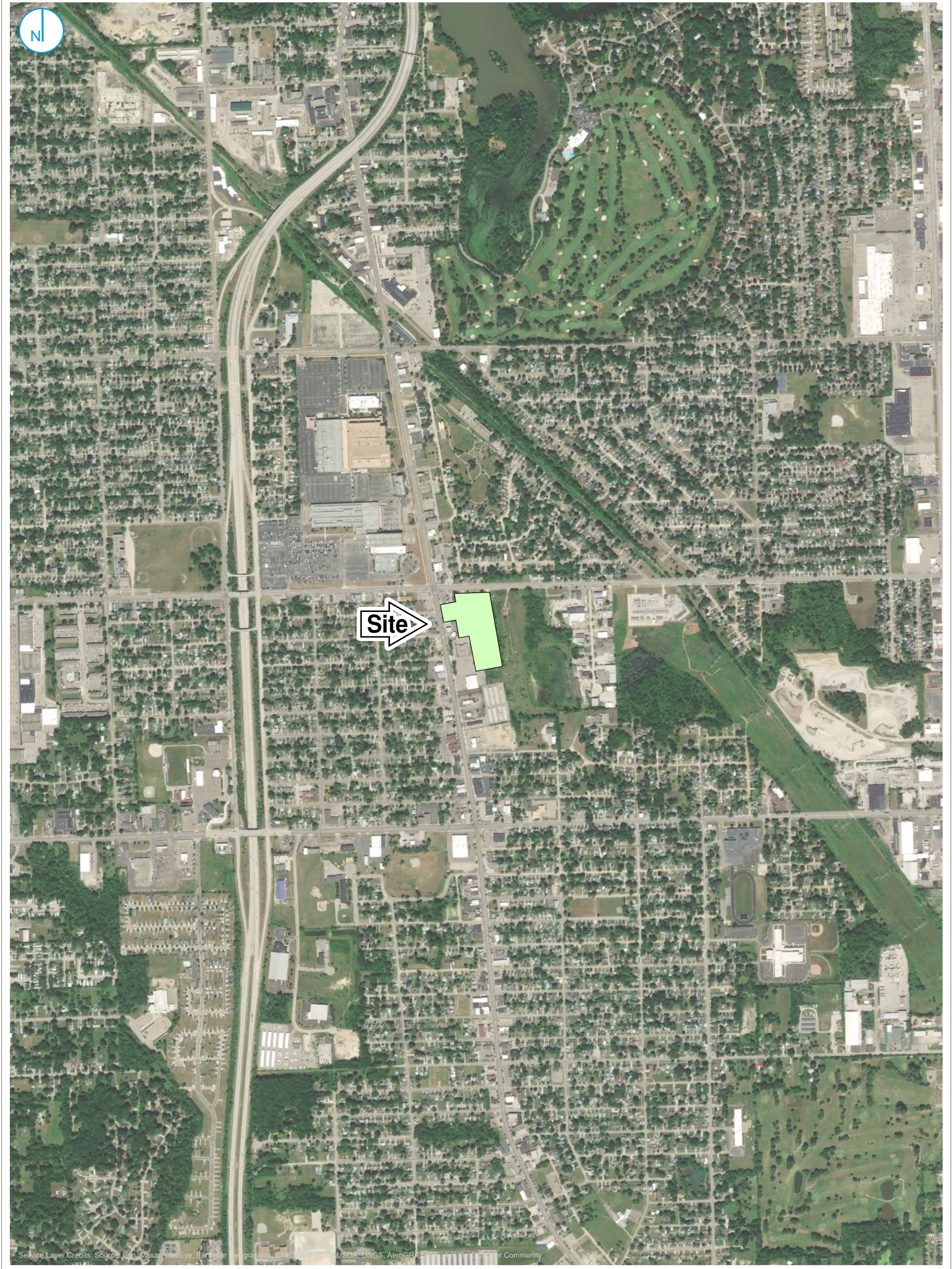
Notes:
 Units are µg/L.
 * - indicates monitoring well is screened in fill.
 Criteria are for total 1,3-Dichloropropene, values for cis and trans should be summed and compared against the appropriate criterion.
 Criteria are for total xylenes, values for p,m- and o- should be summed and compared against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

TABLE 4
RACER Trust - Hemphill Road Industrial Land
Groundwater Analytical Results - April 2021

Monitoring Well Sample Date	OFFSITE WELLS										EGLE Part 201 Generic Criteria		EGLE Site Specific Criteria	
	*OBG OS-MW-1		*OBG OS-MW-2		*OBG OS-MW-3		*OBG OS-MW-4		*OBG OS-MW-5		Residential Drinking Water	Non-Residential Drinking Water	Residential VIAC GWNIC	Nonresidential VIAC GWNIC
	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved				
Metals														
Arsenic	38	26	55	48	20	22	2	2	<2	<2	10 (A)	10 (A)	--	--
Barium	820	820	222	220	241	255	1,170	1,140	2,260	2,190	2,000 (A)	2,000 (A)	--	--
Lead	<3	<3	5	<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	13	8	<5	<5	<5	<5	<5	<5	2,400	5,000 (E)	--	--
VOCs														
DO/ORP:	0.11	-52.2	0.21	-41.2	2.82	-98.8	1.47	-65.3	1.69	91.5				
Acetone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	730	2,100	--	--
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	--	--
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	1.0 ca	420 ca
n-Butylbenzene	<1	<1	<1	<1	<1	<1	3	<1	<1	<1	80	230	44 nc	12,000 (S) sol
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	18	50	--	--
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	--	--
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)	--	--
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)	--	--
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	10	29	--	--
sec-Butylbenzene	<1	<1	<1	<1	<1	4	<1	<1	<1	<1	80	230	270 nc	18,000 (S) sol
tert-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80	230	7.7E-02 (M) nc	25 nc
Carbon disulfide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	800	2,300	--	--
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	--	--
Chlorobenzene	<1	<1	<1	<1	<1	10	<1	<1	10	<1	100 (A)	100 (A)	--	--
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	430	1,700	--	--
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	80 (A,W)	80 (A,W)	--	--
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	260	1,100	--	--
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	880	2,500	4.7 ca	2,000 ca
1,1-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	7 (A)	7 (A)	18 nc	3,200 nc
1,2-Dibromo-3-chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.2 (A)	0.2 (A)	--	--
1,2-Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.05 (A)	0.05 (A)	--	--
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	600 (A)	600 (A)	--	--
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	1.4 ca	620 ca
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	--	--
1,3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	6.6	19	--	--
1,4-Dichlorobenzene	<1	<1	<1	<1	<1	6	<1	<1	6	<1	75 (A)	75 (A)	--	--
cis-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	70 (A)	70 (A)	3.4 nc	900 nc
cis-1,3-Dichloropropene ³	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8.5	35	--	--
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	80 (A,W)	80 (A,W)	--	--
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	80	230	--	--
Dichlorodifluoromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1,700	4,800	--	--
Diethyl ether	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	10 (E)	10 (E)	--	--
trans-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	100 (A)	100 (A)	13 nc	3,700 nc
trans-1,3-Dichloropropene ³	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8.5	35	--	--
trans-1,4-Dichloro-2-butene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	na	na	--	--
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	74 (E)	74 (E)	2.8 ca	1,400 ca
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	1,000	2,900	--	--
Hexachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7.3	21	--	--
p-Isopropyltoluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA	--	--
Isopropylbenzene	<5	<5	<5	<5	<5	<5	8	<5	<5	<5	800	2,300	0.60 (M) ca	300 ca
2-Methylnaphthalene	<5	<5	<5	<5	<5	<5	64	<5	<5	<5	260	750	66 nc	24,000 nc
4-Methyl-2-pentanone (MIBK)	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	1,800	5,200	--	--
tert-Methyl butyl ether (MTBE)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	40 (E)	40 (E)	250 ca	1.2E+05 ca
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	NA	--	--
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5 (A)	5 (A)	--	--
Naphthalene	<5	<5	<5	<5	<5	<5	15	<5	<5	<5	520	1,500	4.2 (M) ca	2,200 ca
n-Propylbenzene	<1	<1	<1	<1	<1	<1	15	<1	2	<1	80	230	43 (SE) dev	52,000 (SE) dev
Styrene	<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	--	--
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	200 (A)	200 (A)	--	--
1,1,1,2-Tetrachloroethane	<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)	--	--
1,2,3-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA	43 nc	15,000 nc
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	42	120	--	--
1,2,3-Trimethylbenzene	<1	<1	<1	<1	<1	<1	3	<1	<1	<1	NA	NA	--	--
1,2,4-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	70 (A)	70 (A)	25 nc	8,300 nc
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	63 (E)	63 (E)	--	--
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	72 (E)	72 (E)	18 nc	5,900 nc
Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5.0 (A)	5.0 (A)	1.5 (SE) st	1,200 (SE) st
Tetrahydrofuran	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	95	270	45,000 nc	9.9E+06 nc
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	790 (E)	790 (E)	300 (SE) st	4.2E+05 (SE) st
Trichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5 (A)	5 (A)	7.3-02 (M)(SE) dev	78 (SE) dev
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2,600	7,300	--	--
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.0 (A)	2.0 (A)	0.12 (M) mut	100 ca
o-Xylene ⁴	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	280 (E)	280 (E)	75 nc	23,000 nc
p,m-Xylene ⁴	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	280 (E)	280 (E)	75 nc	23,000 nc

Notes:
 Units are µg/L.
 * - Indicates monitoring well is screened in fill.
 Criteria are for total 1,3-Dichloropropene, values for cis and trans should be summed and compared against the appropriate criterion.
 Criteria are for total xylenes, values for p,m- and o- should be summed and compared against the appropriate criterion.
 Detections are shown in bold type.
 Highlighted value denotes an analytical value that exceeds criteria or a criterion that has been exceeded.
 (A) - Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.
 (E) - Criterion is the aesthetic drinking water value, as required by Section 201.20a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).
 (L) - Criteria for lead are derived using a biologically based model, as allowed for under Section 201.20a(9) of the NREPA.
 (W) - Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 µg/L.
 "na" - means a criterion or value is not available or, in the case of background and CAS numbers, not applicable.

FIGURES



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SITE LOCATION MAP

FIGURE 01

0 500 1,000 2,000
| Feet

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

RAMBOLL US CORPORATION
A RAMBOLL COMPANY





- MONITORING WELL LOCATION (SCREENED IN FILL)
- MONITORING WELL LOCATION (SCREENED IN NATIVE SOIL)
- SHALLOW GROUNDWATER ELEVATION CONTOUR
- FENCE LINE
- APPROXIMATE EXTENT OF WASTE FILL ONSITE

0 50 100
Feet

**INTERPRETED SHALLOW
GROUNDWATER ELEVATION
CONTOURS
APRIL 21, 2021**

FIGURE 02

RAMBOLL US CORPORATION
A RAMBOLL COMPANY

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN





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.

Service Layer Credits: Source: Esri, DeLorme, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

- MONITORING WELL LOCATION (SCREENED IN NATIVE SOIL)
- DEEP GROUNDWATER ELEVATION CONTOUR
- FENCE LINE

0 50 100 Feet

INTERPRETED DEEP POTENTIOMETRIC SURFACE CONTOURS
APRIL 21, 2021

FIGURE 03

RACER TRUST
 HEMPHILL ROAD INDUSTRIAL LAND
 BURTON, MICHIGAN

RAMBOLL US CORPORATION
 A RAMBOLL COMPANY





GROUNDWATER ANALYTICAL RESULTS
APRIL 2021

FIGURE 04

EXHIBIT A
GROUNDWATER SAMPLE LOGS

Standard Groundwater Sampling Log

Date 4/21/2021
 Site Name RACER Hemphill Weather Mostly Cloudy 30's (°F)
 Location Burton, MI Well # OBG MW-1S
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 27.20 ft. Water Volume /ft. for:
 Depth to Water * 12.49 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 14.71 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 2.40 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 7.19 gal.(s)
 Volume removed before sampling 1.5 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: 100 ml/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>12.95</u>	initial <u>12.31</u>	initial <u>1.15</u>	initial <u>4.15</u>	initial <u>7.18</u>	initial <u>121.5</u>	initial <u>6.17</u>
5 min	<u>13.32</u>	<u>12.02</u>	<u>1.17</u>	<u>3.74</u>	<u>7.35</u>	<u>94.6</u>	<u>3.89</u>
10 min	<u>13.63</u>	<u>12.20</u>	<u>1.17</u>	<u>3.67</u>	<u>7.36</u>	<u>93.5</u>	<u>5.22</u>
15 min	<u>13.79</u>	<u>12.57</u>	<u>1.17</u>	<u>3.53</u>	<u>7.37</u>	<u>92.7</u>	<u>3.86</u>
20 min	<u>14.12</u>	<u>12.11</u>	<u>1.17</u>	<u>3.37</u>	<u>7.38</u>	<u>87.4</u>	<u>6.67</u>
25 min	<u>14.29</u>	<u>12.13</u>	<u>1.17</u>	<u>3.10</u>	<u>7.37</u>	<u>83.0</u>	<u>3.70</u>
30 min	<u>14.39</u>	<u>12.51</u>	<u>1.17</u>	<u>2.94</u>	<u>7.37</u>	<u>73.1</u>	<u>3.45</u>
35 min	<u>14.51</u>	<u>11.98</u>	<u>1.17</u>	<u>2.53</u>	<u>7.35</u>	<u>62.0</u>	<u>1.67</u>
40 min	<u>14.59</u>	<u>12.43</u>	<u>1.16</u>	<u>2.66</u>	<u>7.35</u>	<u>60.6</u>	<u>1.48</u>
45 min	<u>14.64</u>	<u>12.25</u>	<u>1.16</u>	<u>2.57</u>	<u>7.34</u>	<u>53.6</u>	<u>1.22</u>
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 11:28
 Physical Appearance at Start Physical Appearance at Sampling
 Color Clear Color Clear
 Odor None Odor None
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes

Notes:

Standard Groundwater Sampling Log

Date 4/21/2021
 Site Name RACER Hemphill
 Location Burton, MI
 Project No. 1940100995
 Personnel KBS

Weather Mostly Cloudy 30's (°F)
 Well # OBG MW-2S
 Evacuation Method Peristaltic
 Sampling Method Low Flow

Well Information:

Depth of Well * 20.30 ft.
 Depth to Water * 10.20 ft.
 Length of Water Column 10.10 ft.
 Volume of Water in Well 1.65 gal.(s)
 3X Volume of Water in Well 4.94 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 1.5 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:

100 ml/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>10.69</u>	initial <u>11.76</u>	initial <u>2.17</u>	initial <u>1.56</u>	initial <u>7.30</u>	initial <u>60.4</u>	initial <u>13.9</u>
5 min	<u>11.39</u>	<u>11.00</u>	<u>2.23</u>	<u>1.80</u>	<u>7.28</u>	<u>43.6</u>	<u>4.30</u>
10 min	<u>11.57</u>	<u>11.10</u>	<u>2.22</u>	<u>1.76</u>	<u>7.28</u>	<u>37.1</u>	<u>5.02</u>
15 min	<u>11.99</u>	<u>11.65</u>	<u>2.23</u>	<u>3.37</u>	<u>7.27</u>	<u>32.7</u>	<u>3.90</u>
20 min	<u>12.25</u>	<u>11.44</u>	<u>2.22</u>	<u>3.65</u>	<u>7.27</u>	<u>25.9</u>	<u>2.14</u>
25 min	<u>12.68</u>	<u>11.42</u>	<u>2.24</u>	<u>2.55</u>	<u>7.26</u>	<u>22.3</u>	<u>2.27</u>
30 min	<u>12.9</u>	<u>11.24</u>	<u>2.24</u>	<u>1.81</u>	<u>7.26</u>	<u>22.1</u>	<u>4.24</u>
35 min	<u>13.04</u>	<u>11.30</u>	<u>2.23</u>	<u>1.85</u>	<u>7.26</u>	<u>17.8</u>	<u>3.75</u>
40 min	<u>13.11</u>	<u>11.14</u>	<u>2.24</u>	<u>1.83</u>	<u>7.26</u>	<u>14.6</u>	<u>3.66</u>
45 min	<u>13.23</u>	<u>10.86</u>	<u>2.26</u>	<u>1.79</u>	<u>7.26</u>	<u>13.7</u>	<u>1.61</u>
50 min	<u>13.23</u>	<u>10.77</u>	<u>2.25</u>	<u>1.77</u>	<u>7.27</u>	<u>17.6</u>	<u>2.41</u>
55 min	<u>13.29</u>	<u>10.96</u>	<u>2.26</u>	<u>1.72</u>	<u>7.26</u>	<u>14.5</u>	<u>1.82</u>
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 14:07

Physical Appearance at Start

Physical Appearance at Sampling

Color Clear
 Odor None
 Turbidity (> 100 NTU) No
 Sheen/Free Product None

Color Clear
 Odor None
 Turbidity (> 100 NTU) No
 Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes

Notes:

Standard Groundwater Sampling Log

Date 4/21/2021
 Site Name RACER Hemphill Weather Mostly Cloudy/Windy 30's (°F)
 Location Burton, MI Well # OBG MW-2D
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 38.39 ft. Water Volume /ft. for:
 Depth to Water * 19.09 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 19.30 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 3.15 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 9.44 gal.(s)
 Volume removed before sampling 1.5 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: 100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>19.36</u>	initial <u>12.03</u>	initial <u>1.32</u>	initial <u>3.75</u>	initial <u>7.53</u>	initial <u>66.4</u>	initial <u>30.0</u>
5 min	<u>19.41</u>	<u>11.28</u>	<u>1.36</u>	<u>2.41</u>	<u>7.50</u>	<u>66</u>	<u>11.8</u>
10 min	<u>19.51</u>	<u>10.66</u>	<u>1.36</u>	<u>2.15</u>	<u>7.50</u>	<u>62.4</u>	<u>4.41</u>
15 min	<u>19.54</u>	<u>10.56</u>	<u>1.38</u>	<u>1.72</u>	<u>7.49</u>	<u>42</u>	<u>3.20</u>
20 min	<u>19.56</u>	<u>10.63</u>	<u>1.39</u>	<u>1.24</u>	<u>7.47</u>	<u>24.7</u>	<u>2.29</u>
25 min	<u>19.58</u>	<u>10.77</u>	<u>1.39</u>	<u>1.16</u>	<u>7.47</u>	<u>19.1</u>	<u>1.33</u>
30 min	<u>19.60</u>	<u>10.91</u>	<u>1.40</u>	<u>0.92</u>	<u>7.46</u>	<u>2.2</u>	<u>1.78</u>
35 min	<u>19.61</u>	<u>11.00</u>	<u>1.39</u>	<u>0.85</u>	<u>7.46</u>	<u>1.8</u>	
40 min	<u>19.64</u>	<u>11.07</u>	<u>1.38</u>	<u>0.74</u>	<u>7.45</u>	<u>-1.7</u>	<u>1.13</u>
45 min	<u>19.64</u>	<u>11.09</u>	<u>1.37</u>	<u>0.74</u>	<u>7.45</u>	<u>-4.2</u>	<u>2.14</u>
50 min	<u>19.66</u>	<u>11.27</u>	<u>1.38</u>	<u>0.75</u>	<u>7.46</u>	<u>-8.1</u>	<u>1.17</u>
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 15:22
 Physical Appearance at Start Physical Appearance at Sampling
 Color Clear Color Clear
 Odor None Odor None
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes
PFAS	3	15 ml Plastic	none	

Notes: Collected PFAS Sample

Standard Groundwater Sampling Log

Date 4/21/2021
 Site Name RACER Hemphill Weather Mostly Sunny 30's (°F)
 Location Burton, MI Well # OBG MW-3S
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 27.59 ft. Water Volume /ft. for:
 Depth to Water * 23.11 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 4.48 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 0.73 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 2.19 gal.(s)
 Volume removed before sampling 1.25 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: 100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>23.11</u>	initial <u>11.74</u>	initial <u>3.50</u>	initial <u>0.70</u>	initial <u>6.99</u>	initial <u>38.0</u>	initial <u>20.7</u>
5 min	<u>23.11</u>	<u>11.33</u>	<u>3.52</u>	<u>0.16</u>	<u>7.01</u>	<u>51.0</u>	<u>9.90</u>
10 min	<u>23.11</u>	<u>10.96</u>	<u>3.51</u>	<u>0.12</u>	<u>7.01</u>	<u>48.5</u>	<u>10.30</u>
15 min	<u>23.11</u>	<u>11.14</u>	<u>3.49</u>	<u>0.12</u>	<u>7.01</u>	<u>51.8</u>	<u>7.52</u>
20 min	<u>23.11</u>	<u>11.38</u>	<u>3.48</u>	<u>0.11</u>	<u>7.00</u>	<u>52.8</u>	<u>5.67</u>
25 min	<u>23.11</u>	<u>11.60</u>	<u>3.48</u>	<u>0.15</u>	<u>7.00</u>	<u>53.0</u>	<u>3.75</u>
30 min	<u>23.11</u>	<u>11.96</u>	<u>3.47</u>	<u>0.11</u>	<u>6.99</u>	<u>53.3</u>	<u>2.60</u>
35 min	<u>23.11</u>	<u>10.84</u>	<u>3.48</u>	<u>0.09</u>	<u>7.00</u>	<u>48.7</u>	<u>2.45</u>
40 min	<u>23.11</u>	<u>10.92</u>	<u>3.47</u>	<u>0.09</u>	<u>7.00</u>	<u>51.1</u>	<u>1.70</u>
45 min	<u>23.11</u>	<u>11.10</u>	<u>3.44</u>	<u>0.09</u>	<u>6.99</u>	<u>51.8</u>	<u>0.98</u>
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 12:42
 Physical Appearance at Start Physical Appearance at Sampling
 Color Clear Color Clear
 Odor None Odor None
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes

Notes:

Standard Groundwater Sampling Log

Date 4/21/2021
 Site Name RACER Hemphill Weather Sunny, 50's (°F)
 Location Burton, MI Well # OBG MW-5S
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 20.29 ft. Water Volume /ft. for:
 Depth to Water * 15.65 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 4.64 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 0.76 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 2.27 gal.(s)
 Volume removed before sampling 1.5 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: 100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>16.00</u>	initial <u>20.13</u>	initial <u>2.11</u>	initial <u>3.41</u>	initial <u>6.77</u>	initial <u>-82.3</u>	initial <u>6.83</u>
5 min	<u>16.23</u>	<u>17.10</u>	<u>2.14</u>	<u>0.61</u>	<u>6.78</u>	<u>-24.0</u>	<u>6.99</u>
10 min	<u>16.39</u>	<u>15.33</u>	<u>2.02</u>	<u>0.33</u>	<u>6.70</u>	<u>7.9</u>	<u>7.46</u>
15 min	<u>16.54</u>	<u>15.25</u>	<u>2.14</u>	<u>0.31</u>	<u>6.61</u>	<u>17.8</u>	<u>11.3</u>
20 min	<u>16.69</u>	<u>14.80</u>	<u>1.91</u>	<u>0.26</u>	<u>6.58</u>	<u>28.0</u>	<u>9.62</u>
25 min	<u>16.85</u>	<u>14.43</u>	<u>2.07</u>	<u>0.19</u>	<u>6.53</u>	<u>22.5</u>	<u>9.55</u>
30 min	<u>16.92</u>	<u>14.73</u>	<u>2.02</u>	<u>0.16</u>	<u>6.56</u>	<u>-15.0</u>	<u>8.32</u>
35 min	<u>16.97</u>	<u>14.66</u>	<u>2.11</u>	<u>0.17</u>	<u>6.55</u>	<u>-9.5</u>	<u>8.20</u>
40 min	<u>17.00</u>	<u>14.73</u>	<u>2.09</u>	<u>0.17</u>	<u>6.53</u>	<u>-4.7</u>	<u>7.55</u>
45 min	<u>17.05</u>	<u>14.84</u>	<u>2.04</u>	<u>0.15</u>	<u>6.55</u>	<u>-1.4</u>	<u>7.81</u>
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 14:47
 Physical Appearance at Start Physical Appearance at Sampling
 Color Yellowish/LNAPL Color Clear
 Odor petroleum like odor Odor petroleum like odor
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product Slight sheen Sheen/Free Product Slight sheen

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes
PFAS	3	15 ml Plastic	none	

Notes:
 DUP-042321 Collected
 Collected PFAS Sample

Standard Groundwater Sampling Log

Date 4/22/2021
 Site Name RACER Hemphill Weather Mostly Cloudy, 30's (°F)
 Location Burton, MI Well # OBG MW-6S
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 19.14 ft. Water Volume /ft. for:
 Depth to Water * 13.88 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 5.26 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 0.86 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 2.57 gal.(s)
 Volume removed before sampling 1.5 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: 100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>14.20</u>	initial <u>10.03</u>	initial <u>0.39</u>	initial <u>6.96</u>	initial <u>6.94</u>	initial <u>257.4</u>	initial <u>8.15</u>
5 min	<u>14.26</u>	<u>8.56</u>	<u>0.40</u>	<u>5.27</u>	<u>7.08</u>	<u>212.8</u>	<u>6.44</u>
10 min	<u>14.45</u>	<u>7.89</u>	<u>0.38</u>	<u>5.49</u>	<u>7.11</u>	<u>162.9</u>	<u>5.15</u>
15 min	<u>14.84</u>	<u>7.82</u>	<u>0.36</u>	<u>5.58</u>	<u>7.09</u>	<u>108.8</u>	<u>3.59</u>
20 min	<u>15.06</u>	<u>8.02</u>	<u>0.34</u>	<u>5.29</u>	<u>7.09</u>	<u>91.4</u>	<u>4.27</u>
25 min	<u>15.25</u>	<u>8.30</u>	<u>0.31</u>	<u>5.05</u>	<u>7.09</u>	<u>79.7</u>	<u>2.99</u>
30 min	<u>15.65</u>	<u>8.70</u>	<u>0.25</u>	<u>4.83</u>	<u>7.06</u>	<u>77.0</u>	<u>2.00</u>
35 min	<u>15.80</u>	<u>8.95</u>	<u>0.21</u>	<u>4.44</u>	<u>7.06</u>	<u>70.5</u>	<u>2.24</u>
40 min	<u>16.11</u>	<u>9.46</u>	<u>0.38</u>	<u>4.03</u>	<u>7.08</u>	<u>63.5</u>	<u>4.91</u>
45 min	<u>16.20</u>	<u>9.50</u>	<u>0.38</u>	<u>3.95</u>	<u>7.08</u>	<u>60.1</u>	<u>2.02</u>
50 min	<u>16.30</u>	<u>9.51</u>	<u>0.35</u>	<u>3.62</u>	<u>7.04</u>	<u>53.6</u>	<u>1.99</u>
55 min	<u>16.40</u>	<u>9.45</u>	<u>0.32</u>	<u>3.47</u>	<u>7.02</u>	<u>48.7</u>	<u>2.44</u>
60 min	<u>16.60</u>	<u>9.65</u>	<u>0.32</u>	<u>3.33</u>	<u>7.04</u>	<u>45.0</u>	<u>2.64</u>
65 min	<u>16.70</u>	<u>9.37</u>	<u>0.31</u>	<u>3.28</u>	<u>7.03</u>	<u>44.7</u>	<u>1.68</u>
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 9:58
 Physical Appearance at Start Physical Appearance at Sampling
 Color Clear Color Clear
 Odor None Odor None
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes

Notes:

Standard Groundwater Sampling Log

Date 4/22/2021
 Site Name RACER Hemphill Weather Mostly Cloudy, 50's (°F)
 Location Burton, MI Well # OBG MW-6D
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 44.42 ft. Water Volume /ft. for:
 Depth to Water * 16.88 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 27.54 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 4.49 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 13.47 gal.(s)
 Volume removed before sampling 1.25 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: 100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>17.09</u>	initial <u>12.57</u>	initial <u>0.38</u>	initial <u>6.35</u>	initial <u>7.67</u>	initial <u>33.9</u>	initial <u>12.70</u>
5 min	<u>17.49</u>	<u>11.83</u>	<u>0.32</u>	<u>6.05</u>	<u>7.86</u>	<u>72.1</u>	<u>3.69</u>
10 min	<u>17.69</u>	<u>11.52</u>	<u>0.32</u>	<u>6.15</u>	<u>7.88</u>	<u>78.9</u>	<u>2.75</u>
15 min	<u>17.85</u>	<u>11.37</u>	<u>0.30</u>	<u>6.12</u>	<u>7.87</u>	<u>79.3</u>	<u>1.94</u>
20 min	<u>17.99</u>	<u>11.38</u>	<u>0.29</u>	<u>5.33</u>	<u>7.84</u>	<u>67.6</u>	<u>1.86</u>
25 min	<u>18.09</u>	<u>11.24</u>	<u>0.29</u>	<u>4.49</u>	<u>7.83</u>	<u>50.0</u>	<u>0.50</u>
30 min	<u>18.15</u>	<u>11.05</u>	<u>0.28</u>	<u>4.16</u>	<u>7.81</u>	<u>29.3</u>	<u>0.92</u>
35 min	<u>18.2</u>	<u>11.01</u>	<u>0.27</u>	<u>3.76</u>	<u>7.79</u>	<u>14.7</u>	<u>0.39</u>
40 min	<u>18.28</u>	<u>10.99</u>	<u>0.27</u>	<u>3.23</u>	<u>7.77</u>	<u>3.4</u>	<u>1.23</u>
45 min	<u>18.34</u>	<u>11.05</u>	<u>0.26</u>	<u>2.95</u>	<u>7.78</u>	<u>-7.0</u>	<u>1.11</u>
50 min	<u>18.39</u>	<u>10.96</u>	<u>0.26</u>	<u>3.16</u>	<u>7.77</u>	<u>-11.7</u>	<u>0.99</u>
55 min	<u>18.39</u>	<u>10.84</u>	<u>0.25</u>	<u>3.03</u>	<u>7.78</u>	<u>-14.2</u>	<u>0.83</u>
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 11:22
 Physical Appearance at Start Physical Appearance at Sampling
 Color Clear Color Clear
 Odor None Odor None
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes
PFAS	3	15 ml Plastic	none	

Notes: Collected PFAS Sample

Standard Groundwater Sampling Log

Date 4/22/2021
 Site Name RACER Hemphill Weather Mostly Cloudy, 40's (°F)
 Location Burton, MI Well # OBG MW-7S
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 17.72 ft.
 Depth to Water * 7.85 ft.
 Length of Water Column 9.87 ft.
 Volume of Water in Well 1.61 gal.(s)
 3X Volume of Water in Well 4.83 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
 (Other, Specify) _____

* Measurements taken from Well Casing Protective Casing _____

Instrument Calibration:

Calibrated within range
 pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>8.09</u>	initial <u>14.48</u>	initial <u>0.03</u>	initial <u>9.15</u>	initial <u>7.07</u>	initial <u>-53.3</u>	initial _____
5 min	<u>8.25</u>	<u>14.39</u>	<u>0.03</u>	<u>8.74</u>	<u>7.03</u>	<u>-35.0</u>	<u>64.1</u>
10 min	<u>8.68</u>	<u>14.13</u>	<u>0.02</u>	<u>8.38</u>	<u>6.94</u>	<u>-23.6</u>	<u>44.2</u>
15 min	<u>8.85</u>	<u>14.14</u>	<u>0.03</u>	<u>8.15</u>	<u>6.87</u>	<u>-31.8</u>	<u>59.8</u>
20 min	<u>9.25</u>	<u>14.21</u>	<u>0.03</u>	<u>7.83</u>	<u>6.82</u>	<u>-30.3</u>	<u>52.8</u>
25 min	<u>9.46</u>	<u>14.07</u>	<u>0.03</u>	<u>7.59</u>	<u>6.81</u>	<u>-27.6</u>	<u>59.2</u>
30 min	<u>9.75</u>	<u>13.90</u>	<u>0.03</u>	<u>7.48</u>	<u>6.79</u>	<u>-28.3</u>	<u>40.4</u>
35 min	<u>9.92</u>	<u>13.98</u>	<u>0.03</u>	<u>7.29</u>	<u>6.78</u>	<u>-28.8</u>	<u>53.9</u>
40 min	<u>10.15</u>	<u>14.07</u>	<u>0.03</u>	<u>7.01</u>	<u>6.77</u>	<u>-27.7</u>	<u>37.0</u>
45 min	<u>10.41</u>	<u>14.03</u>	<u>0.03</u>	<u>6.83</u>	<u>6.76</u>	<u>-29.2</u>	<u>28.8</u>
50 min	<u>10.58</u>	<u>13.85</u>	<u>0.03</u>	<u>6.67</u>	<u>6.75</u>	<u>-29.6</u>	<u>35.7</u>
55 min	<u>10.72</u>	<u>13.67</u>	<u>0.03</u>	<u>6.56</u>	<u>6.71</u>	<u>-29.7</u>	<u>32.0</u>
60 min	<u>10.82</u>	<u>13.58</u>	<u>0.03</u>	<u>6.48</u>	<u>6.69</u>	<u>-31.3</u>	<u>33.2</u>
65 min	<u>10.95</u>	<u>13.57</u>	<u>0.03</u>	<u>6.33</u>	<u>6.69</u>	<u>-32.7</u>	<u>25.5</u>
70 min	<u>11.02</u>	<u>13.53</u>	<u>0.03</u>	<u>6.17</u>	<u>6.68</u>	<u>-30.8</u>	<u>29.8</u>
75 min	<u>11.12</u>	<u>13.42</u>	<u>0.03</u>	<u>6.02</u>	<u>6.67</u>	<u>-31.1</u>	<u>29.4</u>
80 min	<u>11.21</u>	<u>13.30</u>	<u>0.03</u>	<u>5.88</u>	<u>6.67</u>	<u>-32.4</u>	<u>26.1</u>
85 min	_____	_____	_____	_____	_____	_____	_____
90 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 16:48
 Physical Appearance at Start _____ Physical Appearance at Sampling _____
 Color Clear/Rust color globs Color _____ Clear
 Odor None Odor _____ None
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) _____ No
 Sheen/Free Product None Sheen/Free Product _____ None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes
PFAS	3	15 ml Plastic	none	

Notes:

Collected PFAS Sample

Standard Groundwater Sampling Log

Date 4/21/2021
 Site Name RACER Hemphill Weather Cloudy/Windy, 30's (°F)
 Location Burton, MI Well # OBG MW-7D
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 47.52 ft. Water Volume /ft. for:
 Depth to Water * 11.59 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 35.93 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 5.86 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 17.57 gal.(s)
 Volume removed before sampling 1.5 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: 100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>11.60</u>	initial <u>9.79</u>	initial <u>0.40</u>	initial <u>3.38</u>	initial <u>7.95</u>	initial <u>-80.3</u>	initial <u>1.52</u>
5 min	<u>11.60</u>	<u>9.83</u>	<u>0.39</u>	<u>0.94</u>	<u>7.92</u>	<u>-98.2</u>	<u>85.3</u>
10 min	<u>11.60</u>	<u>9.83</u>	<u>0.42</u>	<u>0.62</u>	<u>7.90</u>	<u>-102.7</u>	<u>104</u>
15 min	<u>11.60</u>	<u>9.98</u>	<u>0.44</u>	<u>0.44</u>	<u>7.90</u>	<u>-104.0</u>	<u>104</u>
20 min	<u>11.60</u>	<u>10.04</u>	<u>0.42</u>	<u>0.37</u>	<u>7.90</u>	<u>-104.3</u>	<u>102</u>
25 min	<u>11.60</u>	<u>10.12</u>	<u>0.44</u>	<u>0.29</u>	<u>7.91</u>	<u>-103.7</u>	<u>84.5</u>
30 min	<u>11.60</u>	<u>9.98</u>	<u>0.44</u>	<u>0.24</u>	<u>7.90</u>	<u>-102.7</u>	<u>79.0</u>
35 min	<u>11.60</u>	<u>9.98</u>	<u>0.43</u>	<u>0.22</u>	<u>7.90</u>	<u>-103.5</u>	<u>54.1</u>
40 min	<u>11.60</u>	<u>9.88</u>	<u>0.44</u>	<u>0.19</u>	<u>7.90</u>	<u>-102.6</u>	<u>48.5</u>
45 min	<u>11.60</u>	<u>9.99</u>	<u>0.44</u>	<u>0.17</u>	<u>7.91</u>	<u>-102.0</u>	<u>35.2</u>
50 min	<u>11.60</u>	<u>9.94</u>	<u>0.44</u>	<u>0.16</u>	<u>7.90</u>	<u>-102.3</u>	<u>34.0</u>
55 min	<u>11.60</u>	<u>9.96</u>	<u>0.43</u>	<u>0.15</u>	<u>7.90</u>	<u>-103.8</u>	<u>25.5</u>
60 min	<u>11.60</u>	<u>10.09</u>	<u>0.44</u>	<u>0.15</u>	<u>7.90</u>	<u>-104.8</u>	<u>25.4</u>
65 min	<u>11.60</u>	<u>10.18</u>	<u>0.45</u>	<u>0.14</u>	<u>7.90</u>	<u>-106.0</u>	<u>23.8</u>
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 16:58
 Physical Appearance at Start Physical Appearance at Sampling
 Color Clear to light gray Color Clear
 Odor None Odor None
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes
PFAS	3	15 ml Plastic	none	

Notes:

Collected PFAS Sample

Standard Groundwater Sampling Log

Date 4/26/2021
 Site Name RACER Hemphill Weather Cloudy, 30's (°F)
 Location Burton, MI Well # OBG OS MW-1
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 30.15 ft. Water Volume /ft. for:
 Depth to Water * 21.79 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 8.36 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 1.36 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 4.09 gal.(s)
 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: 100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>22.05</u>	initial <u>8.98</u>	initial <u>0.92</u>	initial <u>1.04</u>	initial <u>6.74</u>	initial <u>-51.1</u>	initial <u>121</u>
5 min	<u>22.09</u>	<u>9.03</u>	<u>0.93</u>	<u>0.49</u>	<u>6.72</u>	<u>-54.6</u>	<u>97.1</u>
10 min	<u>22.26</u>	<u>9.22</u>	<u>0.93</u>	<u>0.23</u>	<u>6.80</u>	<u>-57.9</u>	<u>22.7</u>
15 min	<u>22.41</u>	<u>9.17</u>	<u>0.92</u>	<u>0.16</u>	<u>6.83</u>	<u>-57.1</u>	<u>19.5</u>
20 min	<u>22.56</u>	<u>8.89</u>	<u>0.93</u>	<u>0.13</u>	<u>6.84</u>	<u>-56.0</u>	<u>17.8</u>
25 min	<u>22.70</u>	<u>8.84</u>	<u>0.93</u>	<u>0.12</u>	<u>6.85</u>	<u>-54.5</u>	<u>13.3</u>
30 min	<u>22.79</u>	<u>8.70</u>	<u>0.94</u>	<u>0.11</u>	<u>6.86</u>	<u>-53.2</u>	<u>12.5</u>
35 min	<u>22.86</u>	<u>8.70</u>	<u>0.94</u>	<u>0.11</u>	<u>6.86</u>	<u>-52.2</u>	<u>13.2</u>
40 min							
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 11:12
 Physical Appearance at Start Physical Appearance at Sampling
 Color Rust color / clear Color Clear
 Odor None Odor None
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes

Notes:

Standard Groundwater Sampling Log

Date 4/26/2021
 Site Name RACER Hemphill Weather Cloudy, 30's (°F)
 Location Burton, MI Well # OBG OS MW-2
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 30.21 ft. Water Volume /ft. for:
 Depth to Water * 20.98 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 9.23 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 1.50 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 4.51 gal.(s)
 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: 100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>21.39</u>	initial <u>8.75</u>	initial <u>0.87</u>	initial <u>0.38</u>	initial <u>6.94</u>	initial <u>-34.4</u>	initial <u>26.0</u>
5 min	<u>21.42</u>	<u>8.94</u>	<u>0.88</u>	<u>0.21</u>	<u>6.94</u>	<u>-38.3</u>	<u>35.2</u>
10 min	<u>21.6</u>	<u>9.04</u>	<u>0.87</u>	<u>0.18</u>	<u>6.94</u>	<u>-41.4</u>	<u>18.9</u>
15 min	<u>21.71</u>	<u>9.11</u>	<u>0.87</u>	<u>0.16</u>	<u>6.95</u>	<u>-42.3</u>	<u>8.53</u>
20 min	<u>21.75</u>	<u>9.08</u>	<u>0.87</u>	<u>0.17</u>	<u>6.94</u>	<u>-42.3</u>	<u>13.3</u>
25 min	<u>21.75</u>	<u>8.97</u>	<u>0.87</u>	<u>0.20</u>	<u>6.94</u>	<u>-41.5</u>	<u>12.4</u>
30 min	<u>21.78</u>	<u>9.03</u>	<u>0.87</u>	<u>0.21</u>	<u>6.93</u>	<u>-40.7</u>	<u>10.9</u>
35 min	<u>21.81</u>	<u>8.97</u>	<u>0.87</u>	<u>0.21</u>	<u>6.94</u>	<u>-41.2</u>	<u>9.69</u>
40 min							
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 12:17
 Physical Appearance at Start Physical Appearance at Sampling
 Color Rust color / clear Color Clear / rust globs
 Odor None Odor None
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes

Notes:

Standard Groundwater Sampling Log

Date 4/23/2021
 Site Name RACER Hemphill Weather Mostly Cloudy, 40's (°F)
 Location Burton, MI Well # OBG OS MW-3
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 30.24 ft. Water Volume /ft. for:
 Depth to Water * 25.80 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 4.44 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 0.72 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 2.17 gal.(s)
 Volume removed before sampling 1.25 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: 100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>25.83</u>	initial <u>20.23</u>	initial <u>0.04</u>	initial <u>7.45</u>	initial <u>7.09</u>	initial <u>-95.8</u>	initial <u>66.4</u>
5 min	<u>25.83</u>	<u>19.72</u>	<u>0.04</u>	<u>3.05</u>	<u>7.10</u>	<u>-100.1</u>	<u>23.7</u>
10 min	<u>25.83</u>	<u>18.30</u>	<u>0.04</u>	<u>2.80</u>	<u>7.10</u>	<u>-101.7</u>	<u>5.97</u>
15 min	<u>25.83</u>	<u>17.28</u>	<u>0.04</u>	<u>2.94</u>	<u>7.11</u>	<u>-101.1</u>	<u>4.69</u>
20 min	<u>25.83</u>	<u>16.78</u>	<u>0.04</u>	<u>2.86</u>	<u>7.10</u>	<u>-100.6</u>	<u>2.30</u>
25 min	<u>25.83</u>	<u>16.14</u>	<u>0.05</u>	<u>2.92</u>	<u>7.10</u>	<u>-99.9</u>	<u>1.99</u>
30 min	<u>25.83</u>	<u>15.61</u>	<u>0.05</u>	<u>3.07</u>	<u>7.06</u>	<u>-99.4</u>	<u>0.49</u>
35 min	<u>25.83</u>	<u>15.25</u>	<u>0.05</u>	<u>2.98</u>	<u>7.09</u>	<u>-98.9</u>	<u>0.02</u>
40 min	<u>25.83</u>	<u>15.15</u>	<u>0.05</u>	<u>2.82</u>	<u>7.09</u>	<u>-98.8</u>	<u>0.02</u>
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 12:52
 Physical Appearance at Start Physical Appearance at Sampling
 Color Clear Color Clear
 Odor Slight chemical odor Odor Slight chemical odor
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes
PFAS	3	15 ml Plastic	none	

Notes:

Standard Groundwater Sampling Log

Date 4/23/2021
 Site Name RACER Hemphill Weather Mostly Cloudy, 40's (°F)
 Location Burton, MI Well # OBG OS MW-4
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 29.75 ft. Water Volume /ft. for:
 Depth to Water * 24.46 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 5.29 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 0.86 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 2.59 gal.(s)
 Volume removed before sampling 1.5 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: 100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>24.48</u>	initial <u>17.89</u>	initial <u>0.12</u>	initial <u>7.08</u>	initial <u>6.55</u>	initial <u>-69.1</u>	initial <u>17.3</u>
5 min	<u>24.48</u>	<u>17.49</u>	<u>0.21</u>	<u>2.24</u>	<u>6.63</u>	<u>-72.9</u>	<u>9.44</u>
10 min	<u>24.48</u>	<u>16.52</u>	<u>0.23</u>	<u>2.09</u>	<u>6.64</u>	<u>-70.3</u>	<u>2.12</u>
15 min	<u>24.48</u>	<u>16.03</u>	<u>0.23</u>	<u>1.92</u>	<u>6.64</u>	<u>-67.9</u>	<u>1.85</u>
20 min	<u>24.48</u>	<u>15.70</u>	<u>0.24</u>	<u>1.90</u>	<u>6.63</u>	<u>-65.8</u>	<u>0.44</u>
25 min	<u>24.48</u>	<u>15.34</u>	<u>0.24</u>	<u>1.78</u>	<u>6.63</u>	<u>-65.4</u>	<u>0.20</u>
30 min	<u>24.48</u>	<u>14.89</u>	<u>0.23</u>	<u>1.59</u>	<u>6.63</u>	<u>-65.1</u>	<u>0.02</u>
35 min	<u>24.48</u>	<u>14.60</u>	<u>0.23</u>	<u>1.53</u>	<u>6.63</u>	<u>-66.0</u>	<u>0.02</u>
40 min	<u>24.48</u>	<u>14.38</u>	<u>0.23</u>	<u>1.47</u>	<u>6.63</u>	<u>-65.3</u>	<u>0.02</u>
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 11:52
 Physical Appearance at Start Physical Appearance at Sampling
 Color Clear Color Clear
 Odor None Odor None
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes
PFAS	3	15 ml Plastic	none	

Notes:

Standard Groundwater Sampling Log

Date 4/23/2021
 Site Name RACER Hemphill Weather Mostly Cloudy, 40's (°F)
 Location Burton, MI Well # OBG OS MW-5
 Project No. 1940100995 Evacuation Method Peristaltic
 Personnel KBS Sampling Method Low Flow

Well Information:

Depth of Well * 28.12 ft. Water Volume /ft. for:
 Depth to Water * 24.84 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 3.28 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 0.53 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 1.60 gal.(s)
 Volume removed before sampling 1.5 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: 100 mL/min pumping rate

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3%)	Conductivity mS/cm (±3%)	Dissolved Oxygen mg/L (±10% or <0.5)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10% or <5)
initial	<u>24.91</u>	initial <u>24.35</u>	initial <u>0.00</u>	initial <u>7.38</u>	initial <u>6.53</u>	initial <u>-35.9</u>	initial
5 min	<u>24.91</u>	<u>23.20</u>	<u>0.00</u>	<u>6.74</u>	<u>6.37</u>	<u>9.6</u>	<u>46.9</u>
10 min	<u>24.91</u>	<u>21.28</u>	<u>0.00</u>	<u>5.77</u>	<u>6.48</u>	<u>14.8</u>	<u>9.92</u>
15 min	<u>24.91</u>	<u>19.84</u>	<u>0.00</u>	<u>5.08</u>	<u>6.50</u>	<u>26.7</u>	<u>2.68</u>
20 min	<u>24.94</u>	<u>18.14</u>	<u>0.00</u>	<u>5.59</u>	<u>5.82</u>	<u>94.1</u>	<u>12.2</u>
25 min	<u>24.94</u>	<u>17.13</u>	<u>0.00</u>	<u>4.56</u>	<u>5.73</u>	<u>105.6</u>	<u>4.80</u>
30 min	<u>24.94</u>	<u>16.66</u>	<u>0.00</u>	<u>4.03</u>	<u>5.69</u>	<u>106.1</u>	<u>3.36</u>
35 min	<u>24.94</u>	<u>16.11</u>	<u>0.00</u>	<u>3.38</u>	<u>5.53</u>	<u>106.6</u>	<u>2.16</u>
40 min	<u>24.94</u>	<u>15.71</u>	<u>0.00</u>	<u>2.90</u>	<u>5.58</u>	<u>100.4</u>	<u>1.45</u>
45 min	<u>24.94</u>	<u>15.43</u>	<u>0.00</u>	<u>2.56</u>	<u>5.51</u>	<u>89.3</u>	<u>0.94</u>
50 min	<u>24.94</u>	<u>15.20</u>	<u>0.00</u>	<u>2.20</u>	<u>5.49</u>	<u>90.1</u>	<u>0.02</u>
55 min	<u>24.94</u>	<u>15.07</u>	<u>0.00</u>	<u>1.86</u>	<u>5.53</u>	<u>90.2</u>	<u>0.02</u>
60 min	<u>24.94</u>	<u>15.06</u>	<u>0.00</u>	<u>1.77</u>	<u>5.50</u>	<u>90.6</u>	<u>0.02</u>
65 min	<u>24.94</u>	<u>15.05</u>	<u>0.00</u>	<u>1.69</u>	<u>5.50</u>	<u>91.5</u>	<u>0.02</u>
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 10:38

Physical Appearance at Start

Physical Appearance at Sampling

Color Clear/black flecks Color Clear/Black flecks
 Odor Chemical odor Odor Chemical odor
 Turbidity (> 100 NTU) No Turbidity (> 100 NTU) No
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Total Metals	1	125 ml Plastic	HNO3	
Dissolved Metals	1	125 ml Plastic	HNO3	yes
PFAS	3	15 ml Plastic	none	

Notes:

EXHIBIT B
GROUNDWATER ANALYTICAL DATA



Analytical Laboratory Report

Report ID: S23441.01(01)
Generated on 04/29/2021

Report to

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

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Additional Contacts: Kevin Schneider

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): S23441.01-S23441.08
Project: RACER Hemphill Rd Industrial Land
Collected Date(s): 04/21/2021 - 04/22/2021
Submitted Date/Time: 04/22/2021 13:20
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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)

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

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

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

Report Narrative

There is no additional narrative for this analytical report



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
Pennsylvania DEP	#68-05884

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 (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S23441.01	OBG MW-1S	Groundwater	04/21/21 11:28
S23441.02	OBG MW-3S	Groundwater	04/21/21 12:42
S23441.03	OBG MW-2S	Groundwater	04/21/21 14:07
S23441.04	OBG MW-2D	Groundwater	04/21/21 15:22
S23441.05	OBG MW-7D	Groundwater	04/21/21 16:58
S23441.06	OBG MW-6S	Groundwater	04/22/21 09:58
S23441.07	OBG MW-6D	Groundwater	04/22/21 11:22
S23441.08	Trip Blank-042221	Water	04/22/21 00:01



Analytical Laboratory Report

Lab Sample ID: S23441.01

Sample Tag: OBG MW-1S

Collected Date/Time: 04/21/2021 11:28

Matrix: Groundwater

COC Reference: 137305

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/29/21 11:30	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 15:39, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	Not detected	0.002		mg/L	5	7440-38-2	
Barium	0.173	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: 04/26/21 15:42, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.171	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: 04/28/21 23:05, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23441.01 (continued)

Sample Tag: OBG MW-1S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/28/21 23:05, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23441.02

Sample Tag: OBG MW-3S

Collected Date/Time: 04/21/2021 12:42

Matrix: Groundwater

COC Reference: 137305

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/29/21 11:30	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 15:44, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.005	0.002		mg/L	5	7440-38-2	
Barium	0.166	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: 04/26/21 15:47, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.004	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.156	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: 04/28/21 23:24, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23441.02 (continued)

Sample Tag: OBG MW-3S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/28/21 23:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23441.03

Sample Tag: OBG MW-2S

Collected Date/Time: 04/21/2021 14:07

Matrix: Groundwater

COC Reference: 137305

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/29/21 11:30	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 15:50, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.017	0.002		mg/L	5	7440-38-2	
Barium	0.183	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: 04/26/21 15:52, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.014	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.171	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: 04/28/21 23:44, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23441.03 (continued)

Sample Tag: OBG MW-2S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/28/21 23:44, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23441.04

Sample Tag: OBG MW-2D

Collected Date/Time: 04/21/2021 15:22

Matrix: Groundwater

COC Reference: 137305

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/29/21 11:30	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 15:55, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.028	0.002		mg/L	5	7440-38-2	
Barium	0.226	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: 04/26/21 15:57, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.026	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.222	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: 04/29/21 00:02, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23441.04 (continued)

Sample Tag: OBG MW-2D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 00:02, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23441.05

Sample Tag: OBG MW-7D

Collected Date/Time: 04/21/2021 16:58

Matrix: Groundwater

COC Reference: 137305

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/29/21 11:30	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 16:00, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.034	0.002		mg/L	5	7440-38-2	
Barium	0.090	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: 04/26/21 16:10, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.031	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.089	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: 04/29/21 00:21, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23441.05 (continued)

Sample Tag: OBG MW-7D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 00:21, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23441.06

Sample Tag: OBG MW-6S

Collected Date/Time: 04/22/2021 09:58

Matrix: Groundwater

COC Reference: 137305

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/29/21 11:30	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 16:12, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.016	0.002		mg/L	5	7440-38-2	
Barium	0.156	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: 04/26/21 16:15, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.016	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.153	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: 04/29/21 00:40, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23441.06 (continued)

Sample Tag: OBG MW-6S

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 00:40, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23441.07

Sample Tag: OBG MW-6D

Collected Date/Time: 04/22/2021 11:22

Matrix: Groundwater

COC Reference: 137305

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/29/21 11:30	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 16:17, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.018	0.002		mg/L	5	7440-38-2	
Barium	0.078	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: 04/26/21 16:20, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.016	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.073	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: 04/29/21 00:59, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23441.07 (continued)

Sample Tag: OBG MW-6D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 00:59, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23441.08

Sample Tag: Trip Blank-042221

Collected Date/Time: 04/22/2021 00:01

Matrix: Water

COC Reference: 137305

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/29/21 11:30	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/28/21 22:47, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S23441.08 (continued)

Sample Tag: Trip Blank-042221

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/28/21 22:47, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		

Merit Laboratories Login Checklist

Lab Set ID:S23441

Attention: Clifford Yantz

Address: O'Brien & Gere Engineers, Inc.
2260 East Saginaw Street
East Lansing, MI 48823

Client:OBG02 (O'Brien & Gere Engineers, Inc. - East Lansing, MI)

Project: RACER Hemphill Rd Industrial Land

Submitted:04/22/2021 13:20 Login User: SRS

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.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 4.6 |
| 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 checked="" type="checkbox"/> No <input 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: S23441 Submitted: 04/22/2021 13:20
Client: OBG02 (O'Brien & Gere Engineers, Inc. - East Lansing, MI)
Project: RACER Hemphill Rd Industrial Land

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

Initial Preservation Check: 04/22/2021 13:43 SRS
Preservation Recheck (E200.8): N/A

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S23441.01	125ml Plastic HNO3	<2			
S23441.01	125ml Plastic HNO3	<2			
S23441.02	125ml Plastic HNO3	<2			
S23441.02	125ml Plastic HNO3	<2			
S23441.03	125ml Plastic HNO3	<2			
S23441.03	125ml Plastic HNO3	<2			
S23441.04	125ml Plastic HNO3	<2			
S23441.04	125ml Plastic HNO3	<2			
S23441.05	125ml Plastic HNO3	<2			
S23441.05	125ml Plastic HNO3	<2			
S23441.06	125ml Plastic HNO3	<2			
S23441.06	125ml Plastic HNO3	<2			
S23441.07	125ml Plastic HNO3	<2			
S23441.07	125ml Plastic HNO3	<2			



Quality Control Report

Report ID: QC-S23441-01
Generated on 04/29/2021

Report to

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

Phone: 313-333-0211 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): S23441.01-S23441.08
Project: RACER Hemphill Rd Industrial Land
Submitted Date/Time: 04/22/2021 13:20
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-9)
Prep Batch Summary (Pages 10-11)
Surrogates per Lab Sample (Pages 12-19)
Surrogates per QC Sample (Page 20)
Batch QC Results (Pages 21-27)

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: S23441.01

Sample Tag: OBG MW-1S

Collected Date/Time: 04/21/2021 11:28

Matrix: Groundwater

COC Reference: 137305

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 15:42	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 15:39	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 15:42	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 15:39	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 15:42	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 15:39	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 15:42	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 15:39	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 15:42	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 15:39	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/28/21 23:05	210428B9	VF210428W4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S23441.02

Sample Tag: OBG MW-3S

Collected Date/Time: 04/21/2021 12:42

Matrix: Groundwater

COC Reference: 137305

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 15:47	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 15:44	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 15:47	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 15:44	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 15:47	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 15:44	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 15:47	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 15:44	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 15:47	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 15:44	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/28/21 23:24	210428B9	VF210428W4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S23441.03

Sample Tag: OBG MW-2S

Collected Date/Time: 04/21/2021 14:07

Matrix: Groundwater

COC Reference: 137305

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 15:52	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 15:50	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 15:52	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 15:50	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 15:52	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 15:50	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 15:52	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 15:50	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 15:52	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 15:50	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/28/21 23:44	210428B9	VF210428W4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S23441.04

Sample Tag: OBG MW-2D

Collected Date/Time: 04/21/2021 15:22

Matrix: Groundwater

COC Reference: 137305

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 15:57	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 15:55	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 15:57	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 15:55	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 15:57	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 15:55	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 15:57	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 15:55	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 15:57	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 15:55	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 00:02	210428B9	VF210428W4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S23441.05

Sample Tag: OBG MW-7D

Collected Date/Time: 04/21/2021 16:58

Matrix: Groundwater

COC Reference: 137305

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 16:10	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 16:00	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 16:10	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 16:00	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 16:10	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 16:00	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 16:10	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 16:00	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 16:10	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 16:00	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 00:21	210428B9	VF210428W4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S23441.06

Sample Tag: OBG MW-6S

Collected Date/Time: 04/22/2021 09:58

Matrix: Groundwater

COC Reference: 137305

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 16:15	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 16:12	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 16:15	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 16:12	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 16:15	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 16:12	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 16:15	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 16:12	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 16:15	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 16:12	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 00:40	210428B9	VF210428W4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S23441.07

Sample Tag: OBG MW-6D

Collected Date/Time: 04/22/2021 11:22

Matrix: Groundwater

COC Reference: 137305

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 16:20	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 16:17	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 16:20	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 16:17	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 16:20	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 16:17	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 16:20	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 16:17	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 16:20	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 16:17	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 00:59	210428B9	VF210428W4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S23441.08

Sample Tag: Trip Blank-042221

Collected Date/Time: 04/22/2021 00:01

Matrix: Water

COC Reference: 137305

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/28/21 22:47	210428B9	VF210428W4	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-042621-5

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23441.01	Arsenic, Dissolved	E200.8	04/26/21 15:42	MT4-21-0426C
S23441.01	Arsenic	E200.8	04/26/21 15:39	MT4-21-0426C
S23441.01	Barium, Dissolved	E200.8	04/26/21 15:42	MT4-21-0426C
S23441.01	Barium	E200.8	04/26/21 15:39	MT4-21-0426C
S23441.01	Lead, Dissolved	E200.8	04/26/21 15:42	MT4-21-0426C
S23441.01	Lead	E200.8	04/26/21 15:39	MT4-21-0426C
S23441.01	Selenium, Dissolved	E200.8	04/26/21 15:42	MT4-21-0426C
S23441.01	Selenium	E200.8	04/26/21 15:39	MT4-21-0426C
S23441.01	Zinc, Dissolved	E200.8	04/26/21 15:42	MT4-21-0426C
S23441.01	Zinc	E200.8	04/26/21 15:39	MT4-21-0426C
S23441.02	Arsenic, Dissolved	E200.8	04/26/21 15:47	MT4-21-0426C
S23441.02	Arsenic	E200.8	04/26/21 15:44	MT4-21-0426C
S23441.02	Barium, Dissolved	E200.8	04/26/21 15:47	MT4-21-0426C
S23441.02	Barium	E200.8	04/26/21 15:44	MT4-21-0426C
S23441.02	Lead, Dissolved	E200.8	04/26/21 15:47	MT4-21-0426C
S23441.02	Lead	E200.8	04/26/21 15:44	MT4-21-0426C
S23441.02	Selenium, Dissolved	E200.8	04/26/21 15:47	MT4-21-0426C
S23441.02	Selenium	E200.8	04/26/21 15:44	MT4-21-0426C
S23441.02	Zinc, Dissolved	E200.8	04/26/21 15:47	MT4-21-0426C
S23441.02	Zinc	E200.8	04/26/21 15:44	MT4-21-0426C
S23441.03	Arsenic, Dissolved	E200.8	04/26/21 15:52	MT4-21-0426C
S23441.03	Arsenic	E200.8	04/26/21 15:50	MT4-21-0426C
S23441.03	Barium, Dissolved	E200.8	04/26/21 15:52	MT4-21-0426C
S23441.03	Barium	E200.8	04/26/21 15:50	MT4-21-0426C
S23441.03	Lead, Dissolved	E200.8	04/26/21 15:52	MT4-21-0426C
S23441.03	Lead	E200.8	04/26/21 15:50	MT4-21-0426C
S23441.03	Selenium, Dissolved	E200.8	04/26/21 15:52	MT4-21-0426C
S23441.03	Selenium	E200.8	04/26/21 15:50	MT4-21-0426C
S23441.03	Zinc, Dissolved	E200.8	04/26/21 15:52	MT4-21-0426C
S23441.03	Zinc	E200.8	04/26/21 15:50	MT4-21-0426C
S23441.04	Arsenic, Dissolved	E200.8	04/26/21 15:57	MT4-21-0426C
S23441.04	Arsenic	E200.8	04/26/21 15:55	MT4-21-0426C
S23441.04	Barium, Dissolved	E200.8	04/26/21 15:57	MT4-21-0426C
S23441.04	Barium	E200.8	04/26/21 15:55	MT4-21-0426C
S23441.04	Lead, Dissolved	E200.8	04/26/21 15:57	MT4-21-0426C
S23441.04	Lead	E200.8	04/26/21 15:55	MT4-21-0426C
S23441.04	Selenium, Dissolved	E200.8	04/26/21 15:57	MT4-21-0426C
S23441.04	Selenium	E200.8	04/26/21 15:55	MT4-21-0426C
S23441.04	Zinc, Dissolved	E200.8	04/26/21 15:57	MT4-21-0426C
S23441.04	Zinc	E200.8	04/26/21 15:55	MT4-21-0426C
S23441.05	Arsenic, Dissolved	E200.8	04/26/21 16:10	MT4-21-0426C
S23441.05	Arsenic	E200.8	04/26/21 16:00	MT4-21-0426C
S23441.05	Barium, Dissolved	E200.8	04/26/21 16:10	MT4-21-0426C
S23441.05	Barium	E200.8	04/26/21 16:00	MT4-21-0426C
S23441.05	Lead, Dissolved	E200.8	04/26/21 16:10	MT4-21-0426C
S23441.05	Lead	E200.8	04/26/21 16:00	MT4-21-0426C
S23441.05	Selenium, Dissolved	E200.8	04/26/21 16:10	MT4-21-0426C
S23441.05	Selenium	E200.8	04/26/21 16:00	MT4-21-0426C
S23441.05	Zinc, Dissolved	E200.8	04/26/21 16:10	MT4-21-0426C
S23441.05	Zinc	E200.8	04/26/21 16:00	MT4-21-0426C

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-042621-5 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23441.06	Arsenic, Dissolved	E200.8	04/26/21 16:15	MT4-21-0426C
S23441.06	Arsenic	E200.8	04/26/21 16:12	MT4-21-0426C
S23441.06	Barium, Dissolved	E200.8	04/26/21 16:15	MT4-21-0426C
S23441.06	Barium	E200.8	04/26/21 16:12	MT4-21-0426C
S23441.06	Lead, Dissolved	E200.8	04/26/21 16:15	MT4-21-0426C
S23441.06	Lead	E200.8	04/26/21 16:12	MT4-21-0426C
S23441.06	Selenium, Dissolved	E200.8	04/26/21 16:15	MT4-21-0426C
S23441.06	Selenium	E200.8	04/26/21 16:12	MT4-21-0426C
S23441.06	Zinc, Dissolved	E200.8	04/26/21 16:15	MT4-21-0426C
S23441.06	Zinc	E200.8	04/26/21 16:12	MT4-21-0426C
S23441.07	Arsenic, Dissolved	E200.8	04/26/21 16:20	MT4-21-0426C
S23441.07	Arsenic	E200.8	04/26/21 16:17	MT4-21-0426C
S23441.07	Barium, Dissolved	E200.8	04/26/21 16:20	MT4-21-0426C
S23441.07	Barium	E200.8	04/26/21 16:17	MT4-21-0426C
S23441.07	Lead, Dissolved	E200.8	04/26/21 16:20	MT4-21-0426C
S23441.07	Lead	E200.8	04/26/21 16:17	MT4-21-0426C
S23441.07	Selenium, Dissolved	E200.8	04/26/21 16:20	MT4-21-0426C
S23441.07	Selenium	E200.8	04/26/21 16:17	MT4-21-0426C
S23441.07	Zinc, Dissolved	E200.8	04/26/21 16:20	MT4-21-0426C
S23441.07	Zinc	E200.8	04/26/21 16:17	MT4-21-0426C

Organics - Volatiles, Prep Batch ID: VF210428W4

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23441.01	Volatile Organics - DEQ List	SW5030C/8260C	04/28/21 23:05	210428B9
S23441.02	Volatile Organics - DEQ List	SW5030C/8260C	04/28/21 23:24	210428B9
S23441.03	Volatile Organics - DEQ List	SW5030C/8260C	04/28/21 23:44	210428B9
S23441.04	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 00:02	210428B9
S23441.05	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 00:21	210428B9
S23441.06	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 00:40	210428B9
S23441.07	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 00:59	210428B9
S23441.08	Volatile Organics - DEQ List	SW5030C/8260C	04/28/21 22:47	210428B9

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23441.01

Sample Tag: OBG MW-1S

Collected Date/Time: 04/21/2021 11:28

Matrix: Groundwater

COC Reference: 137305

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210428B9, Run Date: 04/28/2021 23:05, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.3	80.0	124.0
1,2-Dichloroethane-D4		84.8	72.0	125.0
Toluene-D8		98.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23441.02

Sample Tag: OBG MW-3S

Collected Date/Time: 04/21/2021 12:42

Matrix: Groundwater

COC Reference: 137305

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210428B9, Run Date: 04/28/2021 23:24, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.8	80.0	124.0
1,2-Dichloroethane-D4		90.1	72.0	125.0
Toluene-D8		98.4	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23441.03

Sample Tag: OBG MW-2S

Collected Date/Time: 04/21/2021 14:07

Matrix: Groundwater

COC Reference: 137305

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210428B9, Run Date: 04/28/2021 23:44, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.2	80.0	124.0
1,2-Dichloroethane-D4		84.2	72.0	125.0
Toluene-D8		98.2	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23441.04

Sample Tag: OBG MW-2D

Collected Date/Time: 04/21/2021 15:22

Matrix: Groundwater

COC Reference: 137305

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210428B9, Run Date: 04/29/2021 00:02, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.3	80.0	124.0
1,2-Dichloroethane-D4		88.6	72.0	125.0
Toluene-D8		97.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23441.05

Sample Tag: OBG MW-7D

Collected Date/Time: 04/21/2021 16:58

Matrix: Groundwater

COC Reference: 137305

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210428B9, Run Date: 04/29/2021 00:21, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.4	80.0	124.0
1,2-Dichloroethane-D4		86.1	72.0	125.0
Toluene-D8		97.9	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23441.06

Sample Tag: OBG MW-6S

Collected Date/Time: 04/22/2021 09:58

Matrix: Groundwater

COC Reference: 137305

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210428B9, Run Date: 04/29/2021 00:40, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.6	80.0	124.0
1,2-Dichloroethane-D4		83.9	72.0	125.0
Toluene-D8		97.6	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23441.07

Sample Tag: OBG MW-6D

Collected Date/Time: 04/22/2021 11:22

Matrix: Groundwater

COC Reference: 137305

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210428B9, Run Date: 04/29/2021 00:59, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.3	80.0	124.0
1,2-Dichloroethane-D4		86.7	72.0	125.0
Toluene-D8		97.5	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23441.08

Sample Tag: Trip Blank-042221

Collected Date/Time: 04/22/2021 00:01

Matrix: Water

COC Reference: 137305

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210428B9, Run Date: 04/28/2021 22:47, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.2	80.0	124.0
1,2-Dichloroethane-D4		85.4	72.0	125.0
Toluene-D8		97.9	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF210428W4

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 210428B9.BLKW28B

Run in Batch: 210428B9, Run Date: 04/28/2021 22:27, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.5	80.0	124.0
1,2-Dichloroethane-D4		83.4	72.0	125.0
Toluene-D8		98.6	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 210428B9.LCSW28B

Run in Batch: 210428B9, Run Date: 04/28/2021 21:12, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.5	80.0	124.0
1,2-Dichloroethane-D4		87.7	72.0	125.0
Toluene-D8		100.2	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 210428B9.LCSDW28B, Parent Sample ID: 210428B9.LCSW28B

Run in Batch: 210428B9, Run Date: 04/28/2021 21:31, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.2	80.0	124.0
1,2-Dichloroethane-D4		86.3	72.0	125.0
Toluene-D8		101.0	89.0	112.0

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-042621-5

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

Blank (BLK)

Lab Sample ID: MT4-21-0426C.020.LRB

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 15:36, Prep Date: 04/26/2021, 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

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-21-0426C.018.LCS

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 15:28, Prep Date: 04/26/2021, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		98	85	115
Barium		97	85	115
Lead		102	85	115
Selenium		102	85	115
Zinc		99	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-21-0426C.041.MS, Parent Sample ID: S23500.01

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 16:04, Prep Date: 04/26/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		105	75	125
Barium		104	75	125
Lead		102	75	125
Selenium		118	75	125
Zinc		104	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-21-0426C.065.MS, Parent Sample ID: S23500.01

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 16:33, Prep Date: 04/26/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		104	75	125
Barium		102	75	125
Lead		103	75	125
Selenium		106	75	125
Zinc		104	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-21-0426C.042.MSD, Parent Sample ID: MT4-21-0426C.041.MS

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 16:05, Prep Date: 04/26/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		107	75	125	2	20
Barium		108	75	125	2	20
Lead		102	75	125	0	20
Selenium		110	75	125	7	20
Zinc		104	75	125	0	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-042621-5 (continued)

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

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-21-0426C.066.MSD, Parent Sample ID: MT4-21-0426C.065.MS

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 16:35, Prep Date: 04/26/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		101	75	125	3	20
Barium		97	75	125	3	20
Lead		102	75	125	0	20
Selenium		107	75	125	1	20
Zinc		105	75	125	0	20

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210428W4

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

Blank (BLK)

Lab Sample ID: 210428B9.BLKW28B

Run in Batch: 210428B9, Run Date: 04/28/2021 22:27, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acetone		ND	10.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Benzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Chloroform		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Diethyl ether		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
2-Hexanone		ND	10.00	ug/l
Hexachloroethane		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Methyl iodide		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210428W4 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 210428B9.BLKW28B

Run in Batch: 210428B9, Run Date: 04/28/2021 22:27, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Naphthalene		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Toluene		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 210428B9.LCSW28B

Run in Batch: 210428B9, Run Date: 04/28/2021 21:12, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		97.6	29.9	161.5
Acrylonitrile		98.0	69.9	128.9
2-Butanone (MEK)		98.2	44.0	134.4
Benzene		103.3	79.9	124.9
n-Butylbenzene		102.3	80.0	133.3
Bromobenzene		103.2	78.7	124.6
Bromochloromethane		95.1	78.2	120.8
Bromodichloromethane		105.6	80.4	128.2
Bromoform		100.3	69.4	128.0
Bromomethane		97.9	56.8	151.3
sec-Butylbenzene		100.6	77.4	129.8
tert-Butylbenzene		105.3	80.7	128.9
Carbon disulfide		94.6	63.8	137.4
Carbon tetrachloride		100.9	72.6	133.0
Chlorobenzene		101.6	79.2	122.7
Chloroethane		96.6	53.4	149.4
Chloroform		94.5	78.4	124.0
Chloromethane		99.4	23.8	166.5
1,1-Dichloroethane		93.8	71.5	126.2
1,1-Dichloroethene		95.2	69.6	139.4

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210428W4 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 210428B9.LCSW28B

Run in Batch: 210428B9, Run Date: 04/28/2021 21:12, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2-Dibromo-3-chloropropane		103.2	21.2	189.4
1,2-Dibromoethane		103.8	70.3	133.7
1,2-Dichlorobenzene		102.7	10.0	166.2
1,2-Dichloroethane		104.9	76.0	126.3
1,2-Dichloropropane		105.1	78.6	126.4
1,3-Dichlorobenzene		99.7	77.0	131.3
1,4-Dichlorobenzene		101.3	20.7	137.7
cis-1,2-Dichloroethene		93.3	76.6	122.1
cis-1,3-Dichloropropene		104.7	79.8	129.9
Dibromochloromethane		101.2	74.6	127.2
Dibromomethane		105.5	76.9	122.1
Dichlorodifluoromethane		103.0	10.0	222.8
Diethyl ether		96.0	67.4	121.2
trans-1,2-Dichloroethene		93.8	73.6	129.3
trans-1,3-Dichloropropene		105.2	74.0	131.3
trans-1,4-Dichloro-2-butene		90.0	68.6	135.4
Ethylbenzene		102.3	79.5	129.1
2-Hexanone		110.0	55.4	136.9
Hexachloroethane		92.9	23.8	138.1
p-Isopropyltoluene		101.1	79.8	137.5
Isopropylbenzene		103.8	74.4	121.5
2-Methylnaphthalene		110.7	25.5	165.5
4-Methyl-2-pentanone (MIBK)		108.1	71.6	125.2
tert-Methyl butyl ether (MTBE)		96.6	73.2	122.4
Methyl iodide		93.6	68.8	116.4
Methylene chloride		93.4	73.3	121.1
Naphthalene		108.6	32.9	135.8
n-Propylbenzene		107.0	82.0	130.7
Styrene		106.2	69.5	126.7
1,1,1,2-Tetrachloroethane		101.0	80.3	128.2
1,1,1-Trichloroethane		92.5	79.4	130.9
1,1,2,2-Tetrachloroethane		102.5	79.8	126.3
1,1,2-Trichloroethane		107.9	78.7	123.1
1,2,3-Trichlorobenzene		103.9	75.4	131.4
1,2,3-Trichloropropane		104.3	78.3	138.8
1,2,3-Trimethylbenzene		103.6	76.3	124.2
1,2,4-Trichlorobenzene		101.2	27.4	143.4
1,2,4-Trimethylbenzene		105.9	81.4	130.8
1,3,5-Trimethylbenzene		104.6	81.3	128.9
Tetrachloroethene	*	164.3	74.5	124.5
Tetrahydrofuran		96.0	59.0	117.9
Toluene		103.7	79.8	124.5
Trichloroethene		106.2	79.7	124.2
Trichlorofluoromethane		91.0	59.7	151.8
Vinyl chloride		98.9	43.5	149.1
o-Xylene		103.9	80.2	131.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210428W4 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 210428B9.LCSW28B

Run in Batch: 210428B9, Run Date: 04/28/2021 21:12, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		102.2	79.4	132.2

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 210428B9.LCSDW28B, Parent Sample ID: 210428B9.LCSW28B

Run in Batch: 210428B9, Run Date: 04/28/2021 21:31, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		88.8	29.9	161.5	9.5	30.0
Acrylonitrile		90.8	69.9	128.9	7.6	30.0
2-Butanone (MEK)		87.2	44.0	134.4	11.9	30.0
Benzene		93.5	79.9	124.9	10.0	30.0
n-Butylbenzene		95.1	80.0	133.3	7.2	30.0
Bromobenzene		94.0	78.7	124.6	9.3	30.0
Bromochloromethane		85.7	78.2	120.8	10.4	30.0
Bromodichloromethane		96.5	80.4	128.2	9.0	30.0
Bromoform		90.5	69.4	128.0	10.2	30.0
Bromomethane		88.0	56.8	151.3	10.7	30.0
sec-Butylbenzene		94.4	77.4	129.8	6.4	30.0
tert-Butylbenzene		96.1	80.7	128.9	9.1	30.0
Carbon disulfide		85.6	63.8	137.4	10.0	30.0
Carbon tetrachloride		90.9	72.6	133.0	10.4	30.0
Chlorobenzene		92.3	79.2	122.7	9.6	30.0
Chloroethane		87.5	53.4	149.4	9.8	30.0
Chloroform		86.1	78.4	124.0	9.3	30.0
Chloromethane		91.4	23.8	166.5	8.3	30.0
1,1-Dichloroethane		85.9	71.5	126.2	8.8	30.0
1,1-Dichloroethene		86.2	69.6	139.4	9.9	30.0
1,2-Dibromo-3-chloropropane		96.1	21.2	189.4	7.1	30.0
1,2-Dibromoethane		93.6	70.3	133.7	10.3	30.0
1,2-Dichlorobenzene		96.7	10.0	166.2	6.0	30.0
1,2-Dichloroethane		96.1	76.0	126.3	8.8	30.0
1,2-Dichloropropane		95.2	78.6	126.4	9.9	30.0
1,3-Dichlorobenzene		93.5	77.0	131.3	6.4	30.0
1,4-Dichlorobenzene		94.7	20.7	137.7	6.7	30.0
cis-1,2-Dichloroethene		85.4	76.6	122.1	8.9	30.0
cis-1,3-Dichloropropene		95.0	79.8	129.9	9.7	30.0
Dibromochloromethane		90.8	74.6	127.2	10.9	30.0
Dibromomethane		95.9	76.9	122.1	9.6	30.0
Dichlorodifluoromethane		92.2	10.0	222.8	11.1	30.0
Diethyl ether		86.5	67.4	121.2	10.4	30.0
trans-1,2-Dichloroethene		85.0	73.6	129.3	9.8	30.0
trans-1,3-Dichloropropene		96.5	74.0	131.3	8.7	30.0
trans-1,4-Dichloro-2-butene		81.8	68.6	135.4	9.6	30.0
Ethylbenzene		92.7	79.5	129.1	9.8	30.0
2-Hexanone		97.6	55.4	136.9	11.9	30.0
Hexachloroethane		87.7	23.8	138.1	5.8	30.0
p-Isopropyltoluene		94.2	79.8	137.5	7.0	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210428W4 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 210428B9.LCSDW28B, Parent Sample ID: 210428B9.LCSW28B

Run in Batch: 210428B9, Run Date: 04/28/2021 21:31, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isopropylbenzene		95.3	74.4	121.5	8.6	30.0
2-Methylnaphthalene		104.0	25.5	165.5	6.3	30.0
4-Methyl-2-pentanone (MIBK)		98.0	71.6	125.2	9.8	30.0
tert-Methyl butyl ether (MTBE)		87.7	73.2	122.4	9.6	30.0
Methyl iodide		84.8	68.8	116.4	9.9	30.0
Methylene chloride		86.0	73.3	121.1	8.3	30.0
Naphthalene		100.9	32.9	135.8	7.3	30.0
n-Propylbenzene		96.0	82.0	130.7	10.9	30.0
Styrene		96.2	69.5	126.7	9.9	30.0
1,1,1,2-Tetrachloroethane		91.5	80.3	128.2	9.8	30.0
1,1,1-Trichloroethane		82.3	79.4	130.9	11.6	30.0
1,1,2,2-Tetrachloroethane		96.5	79.8	126.3	6.0	30.0
1,1,2-Trichloroethane		98.8	78.7	123.1	8.8	30.0
1,2,3-Trichlorobenzene		97.2	75.4	131.4	6.7	30.0
1,2,3-Trichloropropane		95.5	78.3	138.8	8.9	30.0
1,2,3-Trimethylbenzene		97.2	76.3	124.2	6.4	30.0
1,2,4-Trichlorobenzene		95.7	27.4	143.4	5.6	30.0
1,2,4-Trimethylbenzene		95.6	81.4	130.8	10.3	30.0
1,3,5-Trimethylbenzene		96.5	81.3	128.9	8.0	30.0
Tetrachloroethene	*	119.6	74.5	124.5	31.5	30.0
Tetrahydrofuran		91.6	59.0	117.9	4.8	30.0
Toluene		94.6	79.8	124.5	9.2	30.0
Trichloroethene		94.2	79.7	124.2	12.0	30.0
Trichlorofluoromethane		80.8	59.7	151.8	11.8	30.0
Vinyl chloride		89.7	43.5	149.1	9.8	30.0
o-Xylene		95.4	80.2	131.0	8.5	30.0
p,m-Xylene		93.1	79.4	132.2	9.3	30.0



Analytical Laboratory Report

Report ID: S23500.01(01)
Generated on 05/03/2021

Report to

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

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Report Summary

Lab Sample ID(s): S23500.01-S23500.07
Project: RACER Hemphill Rd Industrial Land
Collected Date(s): 04/22/2021 - 04/23/2021
Submitted Date/Time: 04/23/2021 14:10
Sampled by: Kevin Schneider
P.O. #: 1940002902

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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)

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

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

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

Report Narrative

There is no additional narrative for this analytical report



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
Pennsylvania DEP	#68-05884

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 (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S23500.01	OBG MW-7s	Groundwater	04/22/21 16:48
S23500.02	OBG MW-7s MS	Groundwater	04/22/21 16:48
S23500.03	OBG MW-7s MSD	Groundwater	04/22/21 16:48
S23500.04	OBG OS MW-5	Groundwater	04/23/21 10:38
S23500.05	OBG OS MW-4	Groundwater	04/23/21 11:52
S23500.06	OBG OS MW-3	Groundwater	04/23/21 12:52
S23500.07	Trip Blank - 042321	Water	04/23/21 00:01



Analytical Laboratory Report

Lab Sample ID: S23500.01

Sample Tag: OBG MW-7s

Collected Date/Time: 04/22/2021 16:48

Matrix: Groundwater

COC Reference: 137303

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	2.5	IR
3	40ml Glass	HCL	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 16:02, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.012	0.002		mg/L	5	7440-38-2	
Barium	0.206	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: 04/26/21 16:32, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.010	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.205	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: 04/29/21 17:07, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23500.01 (continued)

Sample Tag: OBG MW-7s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 17:07, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23500.02

Sample Tag: OBG MW-7s MS

Collected Date/Time: 04/22/2021 16:48

Matrix: Groundwater

COC Reference: 137303

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	2.5	IR
4	40ml Glass	HCL	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 16:04, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.273	0.002		mg/L	5	7440-38-2	
Barium	0.465	0.005		mg/L	5	7440-39-3	
Lead	0.255	0.003		mg/L	5	7439-92-1	
Selenium	0.296	0.005		mg/L	5	7782-49-2	
Zinc	0.261	0.005		mg/L	5	7440-66-6	

Method: E200.8, Run Date: 04/26/21 16:33, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.272	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.462	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	0.257	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	0.265	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	0.261	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 13:16, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	61	50		ug/L	1	67-64-1	1
Acrylonitrile	64	2		ug/L	1	107-13-1	1
2-Butanone (MEK)	64	25		ug/L	1	78-93-3	1
Benzene	55	1		ug/L	1	71-43-2	1
n-Butylbenzene	57	1		ug/L	1	104-51-8	1
Bromobenzene	57	1		ug/L	1	108-86-1	1
Bromochloromethane	56	1		ug/L	1	74-97-5	1
Bromodichloromethane	57	1		ug/L	1	75-27-4	1
Bromoform	61	1		ug/L	1	75-25-2	1
Bromomethane	55	5		ug/L	1	74-83-9	1
sec-Butylbenzene	55	1		ug/L	1	135-98-8	1
tert-Butylbenzene	54	1		ug/L	1	98-06-6	1
Carbon disulfide	53	5		ug/L	1	75-15-0	1
Carbon tetrachloride	54	1		ug/L	1	56-23-5	1
Chlorobenzene	56	1		ug/L	1	108-90-7	1
Chloroethane	54	5		ug/L	1	75-00-3	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S23500.02 (continued)

Sample Tag: OBG MW-7s MS

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 13:16, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroform	54	1		ug/L	1	67-66-3	1
Chloromethane	54	5		ug/L	1	74-87-3	1
1,1-Dichloroethane	55	1		ug/L	1	75-34-3	1
1,1-Dichloroethene	53	1		ug/L	1	75-35-4	1
1,2-Dibromo-3-chloropropane	62	5		ug/L	1	96-12-8	1
1,2-Dibromoethane	60	1		ug/L	1	106-93-4	1
1,2-Dichlorobenzene	57	1		ug/L	1	95-50-1	1
1,2-Dichloroethane	56	1		ug/L	1	107-06-2	1
1,2-Dichloropropane	57	1		ug/L	1	78-87-5	1
1,3-Dichlorobenzene	56	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	57	1		ug/L	1	106-46-7	1
cis-1,2-Dichloroethene	55	1		ug/L	1	156-59-2	1
cis-1,3-Dichloropropene	61	1		ug/L	1	10061-01-5	1
Dibromochloromethane	60	5		ug/L	1	124-48-1	1
Dibromomethane	57	5		ug/L	1	74-95-3	1
Dichlorodifluoromethane	44	5		ug/L	1	75-71-8	1
Diethyl ether	58	10		ug/L	1	60-29-7	1
trans-1,2-Dichloroethene	55	1		ug/L	1	156-60-5	1
trans-1,3-Dichloropropene	63	1		ug/L	1	10061-02-6	1
trans-1,4-Dichloro-2-butene	63	1		ug/L	1	110-57-6	1
Ethylbenzene	55	1		ug/L	1	100-41-4	1
2-Hexanone	63	50		ug/L	1	591-78-6	1
Hexachloroethane	59	5		ug/L	1	67-72-1	1
p-Isopropyltoluene	56	5		ug/L	1	99-87-6	1
Isopropylbenzene	54	5		ug/L	1	98-82-8	1
2-Methylnaphthalene	63	5		ug/L	1	91-57-6	1
4-Methyl-2-pentanone (MIBK)	61	50		ug/L	1	108-10-1	1
tert-Methyl butyl ether (MTBE)	57	5		ug/L	1	1634-04-4	1
Methyl iodide	55	1		ug/L	1	74-88-4	1
Methylene chloride	53	5		ug/L	1	75-09-2	1
Naphthalene	59	5		ug/L	1	91-20-3	1
n-Propylbenzene	55	1		ug/L	1	103-65-1	1
Styrene	56	1		ug/L	1	100-42-5	1
1,1,1,2-Tetrachloroethane	56	1		ug/L	1	630-20-6	1
1,1,1-Trichloroethane	52	1		ug/L	1	71-55-6	1
1,1,2,2-Tetrachloroethane	60	1		ug/L	1	79-34-5	1
1,1,2-Trichloroethane	60	1		ug/L	1	79-00-5	1
1,2,3-Trichlorobenzene	58	5		ug/L	1	87-61-6	1
1,2,3-Trichloropropane	60	1		ug/L	1	96-18-4	1
1,2,3-Trimethylbenzene	57	1		ug/L	1	526-73-8	1
1,2,4-Trichlorobenzene	58	5		ug/L	1	120-82-1	1
1,2,4-Trimethylbenzene	55	1		ug/L	1	95-63-6	1
1,3,5-Trimethylbenzene	54	1		ug/L	1	108-67-8	1
Tetrachloroethene	48	1		ug/L	1	127-18-4	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Toluene	56	1		ug/L	1	108-88-3	1
Trichloroethene	54	1		ug/L	1	79-01-6	1
Trichlorofluoromethane	52	1		ug/L	1	75-69-4	1
Vinyl chloride	53	1		ug/L	1	75-01-4	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S23500.02 (continued)

Sample Tag: OBG MW-7s MS

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 13:16, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	55	1		ug/L	1	95-47-6	1
p,m-Xylene*	110	2		ug/L	1		1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S23500.03

Sample Tag: OBG MW-7s MSD

Collected Date/Time: 04/22/2021 16:48

Matrix: Groundwater

COC Reference: 137303

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	2.5	IR
4	40ml Glass	HCL	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 16:05, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.278	0.002		mg/L	5	7440-38-2	
Barium	0.476	0.005		mg/L	5	7440-39-3	
Lead	0.254	0.003		mg/L	5	7439-92-1	
Selenium	0.275	0.005		mg/L	5	7782-49-2	
Zinc	0.261	0.005		mg/L	5	7440-66-6	

Method: E200.8, Run Date: 04/26/21 16:35, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.265	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.449	0.005		mg/L	5	7440-39-3	
Lead, Dissolved	0.256	0.003		mg/L	5	7439-92-1	
Selenium, Dissolved	0.267	0.005		mg/L	5	7782-49-2	
Zinc, Dissolved	0.262	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 13:39, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	54	50		ug/L	1	67-64-1	1
Acrylonitrile	55	2		ug/L	1	107-13-1	1
2-Butanone (MEK)	55	25		ug/L	1	78-93-3	1
Benzene	49	1		ug/L	1	71-43-2	1
n-Butylbenzene	48	1		ug/L	1	104-51-8	1
Bromobenzene	49	1		ug/L	1	108-86-1	1
Bromochloromethane	50	1		ug/L	1	74-97-5	1
Bromodichloromethane	50	1		ug/L	1	75-27-4	1
Bromoform	51	1		ug/L	1	75-25-2	1
Bromomethane	49	5		ug/L	1	74-83-9	1
sec-Butylbenzene	46	1		ug/L	1	135-98-8	1
tert-Butylbenzene	46	1		ug/L	1	98-06-6	1
Carbon disulfide	47	5		ug/L	1	75-15-0	1
Carbon tetrachloride	47	1		ug/L	1	56-23-5	1
Chlorobenzene	49	1		ug/L	1	108-90-7	1
Chloroethane	47	5		ug/L	1	75-00-3	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S23500.03 (continued)

Sample Tag: OBG MW-7s MSD

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 13:39, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroform	49	1		ug/L	1	67-66-3	1
Chloromethane	48	5		ug/L	1	74-87-3	1
1,1-Dichloroethane	49	1		ug/L	1	75-34-3	1
1,1-Dichloroethene	46	1		ug/L	1	75-35-4	1
1,2-Dibromo-3-chloropropane	53	5		ug/L	1	96-12-8	1
1,2-Dibromoethane	51	1		ug/L	1	106-93-4	1
1,2-Dichlorobenzene	49	1		ug/L	1	95-50-1	1
1,2-Dichloroethane	49	1		ug/L	1	107-06-2	1
1,2-Dichloropropane	51	1		ug/L	1	78-87-5	1
1,3-Dichlorobenzene	49	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	49	1		ug/L	1	106-46-7	1
cis-1,2-Dichloroethene	49	1		ug/L	1	156-59-2	1
cis-1,3-Dichloropropene	53	1		ug/L	1	10061-01-5	1
Dibromochloromethane	51	5		ug/L	1	124-48-1	1
Dibromomethane	50	5		ug/L	1	74-95-3	1
Dichlorodifluoromethane	38	5		ug/L	1	75-71-8	1
Diethyl ether	52	10		ug/L	1	60-29-7	1
trans-1,2-Dichloroethene	49	1		ug/L	1	156-60-5	1
trans-1,3-Dichloropropene	55	1		ug/L	1	10061-02-6	1
trans-1,4-Dichloro-2-butene	52	1		ug/L	1	110-57-6	1
Ethylbenzene	48	1		ug/L	1	100-41-4	1
2-Hexanone	53	50		ug/L	1	591-78-6	1
Hexachloroethane	50	5		ug/L	1	67-72-1	1
p-Isopropyltoluene	47	5		ug/L	1	99-87-6	1
Isopropylbenzene	46	5		ug/L	1	98-82-8	1
2-Methylnaphthalene	58	5		ug/L	1	91-57-6	1
4-Methyl-2-pentanone (MIBK)	51	50		ug/L	1	108-10-1	1
tert-Methyl butyl ether (MTBE)	51	5		ug/L	1	1634-04-4	1
Methyl iodide	49	1		ug/L	1	74-88-4	1
Methylene chloride	48	5		ug/L	1	75-09-2	1
Naphthalene	51	5		ug/L	1	91-20-3	1
n-Propylbenzene	47	1		ug/L	1	103-65-1	1
Styrene	49	1		ug/L	1	100-42-5	1
1,1,1,2-Tetrachloroethane	49	1		ug/L	1	630-20-6	1
1,1,1-Trichloroethane	46	1		ug/L	1	71-55-6	1
1,1,2,2-Tetrachloroethane	51	1		ug/L	1	79-34-5	1
1,1,2-Trichloroethane	52	1		ug/L	1	79-00-5	1
1,2,3-Trichlorobenzene	52	5		ug/L	1	87-61-6	1
1,2,3-Trichloropropane	50	1		ug/L	1	96-18-4	1
1,2,3-Trimethylbenzene	48	1		ug/L	1	526-73-8	1
1,2,4-Trichlorobenzene	51	5		ug/L	1	120-82-1	1
1,2,4-Trimethylbenzene	48	1		ug/L	1	95-63-6	1
1,3,5-Trimethylbenzene	47	1		ug/L	1	108-67-8	1
Tetrachloroethene	42	1		ug/L	1	127-18-4	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Toluene	49	1		ug/L	1	108-88-3	1
Trichloroethene	47	1		ug/L	1	79-01-6	1
Trichlorofluoromethane	45	1		ug/L	1	75-69-4	1
Vinyl chloride	47	1		ug/L	1	75-01-4	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S23500.03 (continued)

Sample Tag: OBG MW-7s MSD

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 13:39, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	47	1		ug/L	1	95-47-6	1
p,m-Xylene*	95	2		ug/L	1		1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S23500.04

Sample Tag: OBG OS MW-5

Collected Date/Time: 04/23/2021 10:38

Matrix: Groundwater

COC Reference: 137303

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	2.5	IR
3	40ml Glass	HCL	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 16:22, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	Not detected	0.002		mg/L	5	7440-38-2	
Barium	2.26	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: 04/26/21 16:25, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	Not detected	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	2.19	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: 04/29/21 17:30, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	10	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23500.04 (continued)

Sample Tag: OBG OS MW-5

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 17:30, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	6	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	2	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23500.05

Sample Tag: OBG OS MW-4

Collected Date/Time: 04/23/2021 11:52

Matrix: Groundwater

COC Reference: 137303

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	2.5	IR
3	40ml Glass	HCL	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	
Metal Digestion	Completed	SW3015A	04/26/21 14:30	CCM	

Metals

Method: E200.8, Run Date: 04/26/21 16:27, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.002	0.002		mg/L	5	7440-38-2	
Barium	1.17	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: 04/26/21 16:29, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.002	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	1.14	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: 04/29/21 17:53, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	3	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	4	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	10	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23500.05 (continued)

Sample Tag: OBG OS MW-4

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 17:53, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	6	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	8	5		ug/L	1	98-82-8	
2-Methylnaphthalene	64	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	15	5		ug/L	1	91-20-3	
n-Propylbenzene	15	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	3	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	2	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23500.06

Sample Tag: OBG OS MW-3

Collected Date/Time: 04/23/2021 12:52

Matrix: Groundwater

COC Reference: 137303

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	2.5	IR
3	40ml Glass	HCL	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	
Metal Digestion	Completed	SW3015A	05/03/21 10:10	CCM	
Metal Digestion	Completed	SW3015A	05/03/21 10:10	CCM	

Metals

Method: E200.8, Run Date: 05/03/21 12:32, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.020	0.002		mg/L	5	7440-38-2	
Barium	0.241	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: 05/03/21 12:35, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.022	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.255	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: 04/29/21 18:17, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23500.06 (continued)

Sample Tag: OBG OS MW-3

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 18:17, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23500.07

Sample Tag: Trip Blank - 042321

Collected Date/Time: 04/23/2021 00:01

Matrix: Water

COC Reference: 137303

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 15:12, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S23500.07 (continued)

Sample Tag: Trip Blank - 042321

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 15:12, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		

Merit Laboratories Login Checklist

Lab Set ID:S23500

Client:OBG02 (O'Brien & Gere Engineers, Inc. - East Lansing, MI)

Project: RACER Hemphill Rd Industrial Land

Submitted:04/23/2021 14:10 Login User: REJ

Attention: Clifford Yantz

Address: O'Brien & Gere Engineers, Inc.
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211

FAX:

Email: Clifford.Yantz@ramboll.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 2.5 |
| 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab? .04/.05 both bottles. |

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 checked="" type="checkbox"/> No <input 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: S23500 Submitted: 04/23/2021 14:10

Client: OBG02 (O'Brien & Gere Engineers, Inc. - East Lansing, MI)

Project: RACER Hemphill Rd Industrial Land

Attention: Clifford Yantz

Address: O'Brien & Gere Engineers, Inc.
2260 East Saginaw Street
East Lansing, MI 48823

Initial Preservation Check: 04/23/2021 15:17 REJ

Phone: 313-333-0211

FAX:

Preservation Recheck (E200.8): 04/26/2021 09:29 SRS

Email: Clifford.Yantz@ramboll.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S23500.01	125ml Plastic HNO3	<2			
S23500.01	125ml Plastic HNO3	<2			
S23500.02	125ml Plastic HNO3	<2			
S23500.02	125ml Plastic HNO3	<2			
S23500.03	125ml Plastic HNO3	<2			
S23500.03	125ml Plastic HNO3	<2			
S23500.04	125ml Plastic HNO3	6	0.5	<2	Lot# 258255
S23500.04	125ml Plastic HNO3	6	0.5	<2	Lot# 258255
S23500.05	125ml Plastic HNO3	6	0.5	<2	Lot# 258255
S23500.05	125ml Plastic HNO3	6	0.5	<2	Lot# 258255
S23500.06	125ml Plastic HNO3	<2			
S23500.06	125ml Plastic HNO3	<2			



Quality Control Report

Report ID: QC-S23500-01
Generated on 05/03/2021

Report to

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

Phone: 313-333-0211 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): S23500.01-S23500.07
Project: RACER Hemphill Rd Industrial Land
Submitted Date/Time: 04/23/2021 14:10
Sampled by: Kevin Schneider
P.O. #: 1940002902

QC Report Sections

- Cover Page (Page 1)
- Analysis Summary (Pages 2-8)
- Prep Batch Summary (Pages 9-10)
- Surrogates per Lab Sample (Pages 11-15)
- Surrogates per QC Sample (Page 16)
- Batch QC Results (Pages 17-28)

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: S23500.01

Sample Tag: OBG MW-7s

Collected Date/Time: 04/22/2021 16:48

Matrix: Groundwater

COC Reference: 137303

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 16:32	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 16:02	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 16:32	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 16:02	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 16:32	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 16:02	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 16:32	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 16:02	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 16:32	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 16:02	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 17:07	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S23500.02

Sample Tag: OBG MW-7s MS

Collected Date/Time: 04/22/2021 16:48

Matrix: Groundwater

COC Reference: 137303

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 16:33	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 16:04	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 16:33	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 16:04	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 16:33	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 16:04	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 16:33	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 16:04	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 16:33	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 16:04	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 13:16	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S23500.03

Sample Tag: OBG MW-7s MSD

Collected Date/Time: 04/22/2021 16:48

Matrix: Groundwater

COC Reference: 137303

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 16:35	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 16:05	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 16:35	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 16:05	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 16:35	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 16:05	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 16:35	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 16:05	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 16:35	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 16:05	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 13:39	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S23500.04

Sample Tag: OBG OS MW-5

Collected Date/Time: 04/23/2021 10:38

Matrix: Groundwater

COC Reference: 137303

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 16:25	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 16:22	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 16:25	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 16:22	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 16:25	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 16:22	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 16:25	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 16:22	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 16:25	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 16:22	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 17:30	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S23500.05

Sample Tag: OBG OS MW-4

Collected Date/Time: 04/23/2021 11:52

Matrix: Groundwater

COC Reference: 137303

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	04/26/21 16:29	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Arsenic	E200.8	04/26/21 16:27	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	04/26/21 16:29	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Barium	E200.8	04/26/21 16:27	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	04/26/21 16:29	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Lead	E200.8	04/26/21 16:27	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	04/26/21 16:29	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Selenium	E200.8	04/26/21 16:27	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	04/26/21 16:29	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Zinc	E200.8	04/26/21 16:27	MT4-21-0426C	MTD-042621-5	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 17:53	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S23500.06

Sample Tag: OBG OS MW-3

Collected Date/Time: 04/23/2021 12:52

Matrix: Groundwater

COC Reference: 137303

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	05/03/21 12:35	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	05/03/21 12:32	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	05/03/21 12:35	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Barium	E200.8	05/03/21 12:32	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	05/03/21 12:35	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Lead	E200.8	05/03/21 12:32	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	05/03/21 12:35	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	05/03/21 12:32	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	05/03/21 12:35	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	05/03/21 12:32	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 18:17	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S23500.07

Sample Tag: Trip Blank - 042321

Collected Date/Time: 04/23/2021 00:01

Matrix: Water

COC Reference: 137303

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 15:12	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-042621-5

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23500.01	Arsenic, Dissolved	E200.8	04/26/21 16:32	MT4-21-0426C
S23500.01	Arsenic	E200.8	04/26/21 16:02	MT4-21-0426C
S23500.01	Barium, Dissolved	E200.8	04/26/21 16:32	MT4-21-0426C
S23500.01	Barium	E200.8	04/26/21 16:02	MT4-21-0426C
S23500.01	Lead, Dissolved	E200.8	04/26/21 16:32	MT4-21-0426C
S23500.01	Lead	E200.8	04/26/21 16:02	MT4-21-0426C
S23500.01	Selenium, Dissolved	E200.8	04/26/21 16:32	MT4-21-0426C
S23500.01	Selenium	E200.8	04/26/21 16:02	MT4-21-0426C
S23500.01	Zinc, Dissolved	E200.8	04/26/21 16:32	MT4-21-0426C
S23500.01	Zinc	E200.8	04/26/21 16:02	MT4-21-0426C
S23500.02	Arsenic, Dissolved	E200.8	04/26/21 16:33	MT4-21-0426C
S23500.02	Arsenic	E200.8	04/26/21 16:04	MT4-21-0426C
S23500.02	Barium, Dissolved	E200.8	04/26/21 16:33	MT4-21-0426C
S23500.02	Barium	E200.8	04/26/21 16:04	MT4-21-0426C
S23500.02	Lead, Dissolved	E200.8	04/26/21 16:33	MT4-21-0426C
S23500.02	Lead	E200.8	04/26/21 16:04	MT4-21-0426C
S23500.02	Selenium, Dissolved	E200.8	04/26/21 16:33	MT4-21-0426C
S23500.02	Selenium	E200.8	04/26/21 16:04	MT4-21-0426C
S23500.02	Zinc, Dissolved	E200.8	04/26/21 16:33	MT4-21-0426C
S23500.02	Zinc	E200.8	04/26/21 16:04	MT4-21-0426C
S23500.03	Arsenic, Dissolved	E200.8	04/26/21 16:35	MT4-21-0426C
S23500.03	Arsenic	E200.8	04/26/21 16:05	MT4-21-0426C
S23500.03	Barium, Dissolved	E200.8	04/26/21 16:35	MT4-21-0426C
S23500.03	Barium	E200.8	04/26/21 16:05	MT4-21-0426C
S23500.03	Lead, Dissolved	E200.8	04/26/21 16:35	MT4-21-0426C
S23500.03	Lead	E200.8	04/26/21 16:05	MT4-21-0426C
S23500.03	Selenium, Dissolved	E200.8	04/26/21 16:35	MT4-21-0426C
S23500.03	Selenium	E200.8	04/26/21 16:05	MT4-21-0426C
S23500.03	Zinc, Dissolved	E200.8	04/26/21 16:35	MT4-21-0426C
S23500.03	Zinc	E200.8	04/26/21 16:05	MT4-21-0426C
S23500.04	Arsenic, Dissolved	E200.8	04/26/21 16:25	MT4-21-0426C
S23500.04	Arsenic	E200.8	04/26/21 16:22	MT4-21-0426C
S23500.04	Barium, Dissolved	E200.8	04/26/21 16:25	MT4-21-0426C
S23500.04	Barium	E200.8	04/26/21 16:22	MT4-21-0426C
S23500.04	Lead, Dissolved	E200.8	04/26/21 16:25	MT4-21-0426C
S23500.04	Lead	E200.8	04/26/21 16:22	MT4-21-0426C
S23500.04	Selenium, Dissolved	E200.8	04/26/21 16:25	MT4-21-0426C
S23500.04	Selenium	E200.8	04/26/21 16:22	MT4-21-0426C
S23500.04	Zinc, Dissolved	E200.8	04/26/21 16:25	MT4-21-0426C
S23500.04	Zinc	E200.8	04/26/21 16:22	MT4-21-0426C
S23500.05	Arsenic, Dissolved	E200.8	04/26/21 16:29	MT4-21-0426C
S23500.05	Arsenic	E200.8	04/26/21 16:27	MT4-21-0426C
S23500.05	Barium, Dissolved	E200.8	04/26/21 16:29	MT4-21-0426C
S23500.05	Barium	E200.8	04/26/21 16:27	MT4-21-0426C
S23500.05	Lead, Dissolved	E200.8	04/26/21 16:29	MT4-21-0426C
S23500.05	Lead	E200.8	04/26/21 16:27	MT4-21-0426C
S23500.05	Selenium, Dissolved	E200.8	04/26/21 16:29	MT4-21-0426C
S23500.05	Selenium	E200.8	04/26/21 16:27	MT4-21-0426C
S23500.05	Zinc, Dissolved	E200.8	04/26/21 16:29	MT4-21-0426C
S23500.05	Zinc	E200.8	04/26/21 16:27	MT4-21-0426C

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-050321-1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23500.06	Arsenic, Dissolved	E200.8	05/03/21 12:35	MT4-21-0503A
S23500.06	Arsenic	E200.8	05/03/21 12:32	MT4-21-0503A
S23500.06	Barium, Dissolved	E200.8	05/03/21 12:35	MT4-21-0503A
S23500.06	Barium	E200.8	05/03/21 12:32	MT4-21-0503A
S23500.06	Lead, Dissolved	E200.8	05/03/21 12:35	MT4-21-0503A
S23500.06	Lead	E200.8	05/03/21 12:32	MT4-21-0503A
S23500.06	Selenium, Dissolved	E200.8	05/03/21 12:35	MT4-21-0503A
S23500.06	Selenium	E200.8	05/03/21 12:32	MT4-21-0503A
S23500.06	Zinc, Dissolved	E200.8	05/03/21 12:35	MT4-21-0503A
S23500.06	Zinc	E200.8	05/03/21 12:32	MT4-21-0503A

Organics - Volatiles, Prep Batch ID: VF210429W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23500.01	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 17:07	210429A7
S23500.02	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 13:16	210429A7
S23500.03	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 13:39	210429A7
S23500.04	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 17:30	210429A7
S23500.05	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 17:53	210429A7
S23500.06	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 18:17	210429A7
S23500.07	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 15:12	210429A7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23500.01

Sample Tag: OBG MW-7s

Collected Date/Time: 04/22/2021 16:48

Matrix: Groundwater

COC Reference: 137303

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210429A7, Run Date: 04/29/2021 17:07, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		104.6	80.0	124.0
1,2-Dichloroethane-D4		114.7	72.0	125.0
Toluene-D8		103.3	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23500.04

Sample Tag: OBG OS MW-5

Collected Date/Time: 04/23/2021 10:38

Matrix: Groundwater

COC Reference: 137303

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210429A7, Run Date: 04/29/2021 17:30, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.9	80.0	124.0
1,2-Dichloroethane-D4		100.5	72.0	125.0
Toluene-D8		102.6	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23500.05

Sample Tag: OBG OS MW-4

Collected Date/Time: 04/23/2021 11:52

Matrix: Groundwater

COC Reference: 137303

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210429A7, Run Date: 04/29/2021 17:53, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.2	80.0	124.0
1,2-Dichloroethane-D4		99.1	72.0	125.0
Toluene-D8		103.3	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23500.06

Sample Tag: OBG OS MW-3

Collected Date/Time: 04/23/2021 12:52

Matrix: Groundwater

COC Reference: 137303

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210429A7, Run Date: 04/29/2021 18:17, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.5	80.0	124.0
1,2-Dichloroethane-D4		106.0	72.0	125.0
Toluene-D8		103.4	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23500.07

Sample Tag: Trip Blank - 042321

Collected Date/Time: 04/23/2021 00:01

Matrix: Water

COC Reference: 137303

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210429A7, Run Date: 04/29/2021 15:12, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.8	80.0	124.0
1,2-Dichloroethane-D4		105.1	72.0	125.0
Toluene-D8		103.4	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF210429W1

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

Blank (BLK)

Lab Sample ID: 210429A7.BLKW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 14:25, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.7	80.0	124.0
1,2-Dichloroethane-D4		100.9	72.0	125.0
Toluene-D8		103.4	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:29, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.8	80.0	124.0
1,2-Dichloroethane-D4		99.7	72.0	125.0
Toluene-D8		103.3	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 210429A7.LCSDW29A, Parent Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:53, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.4	80.0	124.0
1,2-Dichloroethane-D4		102.2	72.0	125.0
Toluene-D8		103.3	89.0	112.0

Matrix Spike (MS)

Lab Sample ID: 210429A7.2350002M, Parent Sample ID: S23500.01

Run in Batch: 210429A7, Run Date: 04/29/2021 13:16, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		104.3	80.0	124.0
1,2-Dichloroethane-D4		105.0	72.0	125.0
Toluene-D8		103.5	89.0	112.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 210429A7.2350003N, Parent Sample ID: 210429A7.2350002M

Run in Batch: 210429A7, Run Date: 04/29/2021 13:39, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.3	80.0	124.0
1,2-Dichloroethane-D4		109.9	72.0	125.0
Toluene-D8		103.6	89.0	112.0

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-042621-5

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

Blank (BLK)

Lab Sample ID: MT4-21-0426C.020.LRB

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 15:36, Prep Date: 04/26/2021, 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

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-21-0426C.018.LCS

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 15:28, Prep Date: 04/26/2021, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		98	85	115
Barium		97	85	115
Lead		102	85	115
Selenium		102	85	115
Zinc		99	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-21-0426C.041.MS, Parent Sample ID: S23500.01

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 16:04, Prep Date: 04/26/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		105	75	125
Barium		104	75	125
Lead		102	75	125
Selenium		118	75	125
Zinc		104	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-21-0426C.065.MS, Parent Sample ID: S23500.01

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 16:33, Prep Date: 04/26/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		104	75	125
Barium		102	75	125
Lead		103	75	125
Selenium		106	75	125
Zinc		104	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-21-0426C.042.MSD, Parent Sample ID: MT4-21-0426C.041.MS

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 16:05, Prep Date: 04/26/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		107	75	125	2	20
Barium		108	75	125	2	20
Lead		102	75	125	0	20
Selenium		110	75	125	7	20
Zinc		104	75	125	0	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-042621-5 (continued)

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

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-21-0426C.066.MSD, Parent Sample ID: MT4-21-0426C.065.MS

Run in Batch: MT4-21-0426C, Run Date: 04/26/2021 16:35, Prep Date: 04/26/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		101	75	125	3	20
Barium		97	75	125	3	20
Lead		102	75	125	0	20
Selenium		107	75	125	1	20
Zinc		105	75	125	0	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-050321-1

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

Blank (BLK)

Lab Sample ID: MT4-21-0503A.022.LRB

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 11:42, Prep Date: 05/03/2021, 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

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-21-0503A.020.LCS

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 11:36, Prep Date: 05/03/2021, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		102	85	115
Barium		97	85	115
Lead		103	85	115
Selenium		96	85	115
Zinc		100	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-21-0503A.043.MS, Parent Sample ID: S23620.04

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 12:22, Prep Date: 05/03/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		112	75	125
Barium		110	75	125
Lead		102	75	125
Selenium		103	75	125
Zinc		107	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-21-0503A.067.MS, Parent Sample ID: S23500.06

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 12:59, Prep Date: 05/03/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		106	75	125
Barium		103	75	125
Lead		102	75	125
Selenium		98	75	125
Zinc		109	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-21-0503A.044.MSD, Parent Sample ID: MT4-21-0503A.043.MS

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 12:24, Prep Date: 05/03/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		107	75	125	5	20
Barium		99	75	125	6	20
Lead		100	75	125	2	20
Selenium		101	75	125	2	20
Zinc		103	75	125	4	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-050321-1 (continued)

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

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-21-0503A.068.MSD, Parent Sample ID: MT4-21-0503A.067.MS

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 13:00, Prep Date: 05/03/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		107	75	125	1	20
Barium		93	75	125	5	20
Lead		102	75	125	1	20
Selenium		106	75	125	8	20
Zinc		104	75	125	5	20

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1

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

Blank (BLK)

Lab Sample ID: 210429A7.BLKW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 14:25, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acetone		ND	10.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Benzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Chloroform		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Diethyl ether		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
2-Hexanone		ND	10.00	ug/l
Hexachloroethane		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Methyl iodide		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 210429A7.BLKW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 14:25, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Naphthalene		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Toluene		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:29, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		97.6	29.9	161.5
Acrylonitrile		101.5	69.9	128.9
2-Butanone (MEK)		98.8	44.0	134.4
Benzene		92.8	79.9	124.9
n-Butylbenzene		98.5	80.0	133.3
Bromobenzene		95.7	78.7	124.6
Bromochloromethane		94.0	78.2	120.8
Bromodichloromethane		95.0	80.4	128.2
Bromoform		99.5	69.4	128.0
Bromomethane		94.3	56.8	151.3
sec-Butylbenzene		95.9	77.4	129.8
tert-Butylbenzene		93.8	80.7	128.9
Carbon disulfide		89.3	63.8	137.4
Carbon tetrachloride		91.7	72.6	133.0
Chlorobenzene		95.9	79.2	122.7
Chloroethane		90.8	53.4	149.4
Chloroform		91.0	78.4	124.0
Chloromethane		93.1	23.8	166.5
1,1-Dichloroethane		92.1	71.5	126.2
1,1-Dichloroethene		89.3	69.6	139.4

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:29, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2-Dibromo-3-chloropropane		99.4	21.2	189.4
1,2-Dibromoethane		99.6	70.3	133.7
1,2-Dichlorobenzene		96.7	10.0	166.2
1,2-Dichloroethane		92.4	76.0	126.3
1,2-Dichloropropane		95.9	78.6	126.4
1,3-Dichlorobenzene		97.4	77.0	131.3
1,4-Dichlorobenzene		98.7	20.7	137.7
cis-1,2-Dichloroethene		91.6	76.6	122.1
cis-1,3-Dichloropropene		101.7	79.8	129.9
Dibromochloromethane		98.8	74.6	127.2
Dibromomethane		96.3	76.9	122.1
Dichlorodifluoromethane		77.3	10.0	222.8
Diethyl ether		96.5	67.4	121.2
trans-1,2-Dichloroethene		91.6	73.6	129.3
trans-1,3-Dichloropropene		102.4	74.0	131.3
trans-1,4-Dichloro-2-butene		102.4	68.6	135.4
Ethylbenzene		94.8	79.5	129.1
2-Hexanone		96.7	55.4	136.9
Hexachloroethane		101.2	23.8	138.1
p-Isopropyltoluene		96.5	79.8	137.5
Isopropylbenzene		93.7	74.4	121.5
2-Methylnaphthalene		102.4	25.5	165.5
4-Methyl-2-pentanone (MIBK)		96.2	71.6	125.2
tert-Methyl butyl ether (MTBE)		93.0	73.2	122.4
Methyl iodide		92.2	68.8	116.4
Methylene chloride		88.8	73.3	121.1
Naphthalene		98.4	32.9	135.8
n-Propylbenzene		96.1	82.0	130.7
Styrene		96.7	69.5	126.7
1,1,1,2-Tetrachloroethane		96.6	80.3	128.2
1,1,1-Trichloroethane		88.7	79.4	130.9
1,1,2,2-Tetrachloroethane		97.2	79.8	126.3
1,1,2-Trichloroethane		98.6	78.7	123.1
1,2,3-Trichlorobenzene		97.4	75.4	131.4
1,2,3-Trichloropropane		96.1	78.3	138.8
1,2,3-Trimethylbenzene		97.7	76.3	124.2
1,2,4-Trichlorobenzene		98.6	27.4	143.4
1,2,4-Trimethylbenzene		95.0	81.4	130.8
1,3,5-Trimethylbenzene		94.2	81.3	128.9
Tetrachloroethene		84.8	74.5	124.5
Tetrahydrofuran		100.5	59.0	117.9
Toluene		93.4	79.8	124.5
Trichloroethene		91.5	79.7	124.2
Trichlorofluoromethane		89.6	59.7	151.8
Vinyl chloride		90.1	43.5	149.1
o-Xylene		93.7	80.2	131.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:29, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		94.3	79.4	132.2

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 210429A7.LCSDW29A, Parent Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:53, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		107.9	29.9	161.5	10.1	30.0
Acrylonitrile		112.7	69.9	128.9	10.5	30.0
2-Butanone (MEK)		111.1	44.0	134.4	11.7	30.0
Benzene		97.4	79.9	124.9	4.9	30.0
n-Butylbenzene		102.2	80.0	133.3	3.7	30.0
Bromobenzene		99.3	78.7	124.6	3.7	30.0
Bromochloromethane		99.6	78.2	120.8	5.8	30.0
Bromodichloromethane		101.0	80.4	128.2	6.0	30.0
Bromoform		107.0	69.4	128.0	7.2	30.0
Bromomethane		95.7	56.8	151.3	1.4	30.0
sec-Butylbenzene		99.9	77.4	129.8	4.0	30.0
tert-Butylbenzene		95.8	80.7	128.9	2.1	30.0
Carbon disulfide		89.2	63.8	137.4	0.1	30.0
Carbon tetrachloride		95.6	72.6	133.0	4.2	30.0
Chlorobenzene		99.3	79.2	122.7	3.4	30.0
Chloroethane		94.0	53.4	149.4	3.5	30.0
Chloroform		96.9	78.4	124.0	6.2	30.0
Chloromethane		96.8	23.8	166.5	3.9	30.0
1,1-Dichloroethane		97.9	71.5	126.2	6.0	30.0
1,1-Dichloroethene		93.9	69.6	139.4	5.0	30.0
1,2-Dibromo-3-chloropropane		110.9	21.2	189.4	10.9	30.0
1,2-Dibromoethane		104.7	70.3	133.7	5.0	30.0
1,2-Dichlorobenzene		102.4	10.0	166.2	5.7	30.0
1,2-Dichloroethane		98.2	76.0	126.3	6.1	30.0
1,2-Dichloropropane		101.9	78.6	126.4	6.0	30.0
1,3-Dichlorobenzene		101.8	77.0	131.3	4.4	30.0
1,4-Dichlorobenzene		102.7	20.7	137.7	4.0	30.0
cis-1,2-Dichloroethene		97.7	76.6	122.1	6.4	30.0
cis-1,3-Dichloropropene		107.5	79.8	129.9	5.5	30.0
Dibromochloromethane		103.9	74.6	127.2	5.0	30.0
Dibromomethane		101.9	76.9	122.1	5.6	30.0
Dichlorodifluoromethane		79.0	10.0	222.8	2.2	30.0
Diethyl ether		104.6	67.4	121.2	8.0	30.0
trans-1,2-Dichloroethene		96.2	73.6	129.3	4.8	30.0
trans-1,3-Dichloropropene		110.4	74.0	131.3	7.6	30.0
trans-1,4-Dichloro-2-butene		110.0	68.6	135.4	7.1	30.0
Ethylbenzene		98.0	79.5	129.1	3.3	30.0
2-Hexanone		109.3	55.4	136.9	12.2	30.0
Hexachloroethane		104.2	23.8	138.1	2.9	30.0
p-Isopropyltoluene		100.9	79.8	137.5	4.4	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 210429A7.LCSDW29A, Parent Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:53, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isopropylbenzene		96.8	74.4	121.5	3.3	30.0
2-Methylnaphthalene		107.9	25.5	165.5	5.2	30.0
4-Methyl-2-pentanone (MIBK)		106.8	71.6	125.2	10.4	30.0
tert-Methyl butyl ether (MTBE)		101.3	73.2	122.4	8.6	30.0
Methyl iodide		97.0	68.8	116.4	5.1	30.0
Methylene chloride		95.1	73.3	121.1	6.9	30.0
Naphthalene		104.3	32.9	135.8	5.8	30.0
n-Propylbenzene		97.4	82.0	130.7	1.4	30.0
Styrene		100.3	69.5	126.7	3.7	30.0
1,1,1,2-Tetrachloroethane		101.0	80.3	128.2	4.4	30.0
1,1,1-Trichloroethane		92.6	79.4	130.9	4.3	30.0
1,1,2,2-Tetrachloroethane		104.7	79.8	126.3	7.5	30.0
1,1,2-Trichloroethane		105.8	78.7	123.1	7.1	30.0
1,2,3-Trichlorobenzene		101.4	75.4	131.4	4.0	30.0
1,2,3-Trichloropropane		103.9	78.3	138.8	7.8	30.0
1,2,3-Trimethylbenzene		103.0	76.3	124.2	5.3	30.0
1,2,4-Trichlorobenzene		102.5	27.4	143.4	3.9	30.0
1,2,4-Trimethylbenzene		98.4	81.4	130.8	3.5	30.0
1,3,5-Trimethylbenzene		97.4	81.3	128.9	3.4	30.0
Tetrachloroethene		86.9	74.5	124.5	2.4	30.0
Tetrahydrofuran		109.4	59.0	117.9	8.5	30.0
Toluene		98.1	79.8	124.5	4.9	30.0
Trichloroethene		95.1	79.7	124.2	3.9	30.0
Trichlorofluoromethane		92.3	59.7	151.8	2.9	30.0
Vinyl chloride		91.7	43.5	149.1	1.8	30.0
o-Xylene		97.6	80.2	131.0	4.1	30.0
p,m-Xylene		98.2	79.4	132.2	4.1	30.0

Matrix Spike (MS)

Lab Sample ID: 210429A7.2350002M, Parent Sample ID: S23500.01

Run in Batch: 210429A7, Run Date: 04/29/2021 13:16, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		122.8	29.9	161.5
Acrylonitrile		128.4	69.9	128.9
2-Butanone (MEK)		127.6	44.0	134.4
Benzene		110.2	79.9	124.9
n-Butylbenzene		113.9	80.0	133.3
Bromobenzene		113.6	78.7	124.6
Bromochloromethane		112.7	78.2	120.8
Bromodichloromethane		114.3	80.4	128.2
Bromoform		122.3	69.4	128.0
Bromomethane		109.4	56.8	151.3
sec-Butylbenzene		109.1	77.4	129.8
tert-Butylbenzene		107.8	80.7	128.9
Carbon disulfide		105.3	63.8	137.4
Carbon tetrachloride		108.7	72.6	133.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 210429A7.2350002M, Parent Sample ID: S23500.01

Run in Batch: 210429A7, Run Date: 04/29/2021 13:16, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chlorobenzene		112.7	79.2	122.7
Chloroethane		107.5	53.4	149.4
Chloroform		108.7	78.4	124.0
Chloromethane		108.2	23.8	166.5
1,1-Dichloroethane		110.7	71.5	126.2
1,1-Dichloroethene		106.1	69.6	139.4
1,2-Dibromo-3-chloropropane		125.0	21.2	189.4
1,2-Dibromoethane		120.0	70.3	133.7
1,2-Dichlorobenzene		113.7	10.0	166.2
1,2-Dichloroethane		111.1	76.0	126.3
1,2-Dichloropropane		114.8	78.6	126.4
1,3-Dichlorobenzene		112.4	77.0	131.3
1,4-Dichlorobenzene		114.5	20.7	137.7
cis-1,2-Dichloroethene		110.2	76.6	122.1
cis-1,3-Dichloropropene		122.0	79.8	129.9
Dibromochloromethane		119.1	74.6	127.2
Dibromomethane		114.6	76.9	122.1
Dichlorodifluoromethane		88.1	10.0	222.8
Diethyl ether		116.2	67.4	121.2
trans-1,2-Dichloroethene		109.1	73.6	129.3
trans-1,3-Dichloropropene		125.5	74.0	131.3
trans-1,4-Dichloro-2-butene		125.9	68.6	135.4
Ethylbenzene		110.3	79.5	129.1
2-Hexanone		125.1	55.4	136.9
Hexachloroethane		118.4	23.8	138.1
p-Isopropyltoluene		111.2	79.8	137.5
Isopropylbenzene		108.2	74.4	121.5
2-Methylnaphthalene		126.4	25.5	165.5
4-Methyl-2-pentanone (MIBK)		122.0	71.6	125.2
tert-Methyl butyl ether (MTBE)		114.5	73.2	122.4
Methyl iodide		109.3	68.8	116.4
Methylene chloride		106.1	73.3	121.1
Naphthalene		118.7	32.9	135.8
n-Propylbenzene		109.5	82.0	130.7
Styrene		112.8	69.5	126.7
1,1,1,2-Tetrachloroethane		112.7	80.3	128.2
1,1,1-Trichloroethane		104.9	79.4	130.9
1,1,2,2-Tetrachloroethane		119.4	79.8	126.3
1,1,2-Trichloroethane		120.5	78.7	123.1
1,2,3-Trichlorobenzene		116.8	75.4	131.4
1,2,3-Trichloropropane		119.3	78.3	138.8
1,2,3-Trimethylbenzene		113.1	76.3	124.2
1,2,4-Trichlorobenzene		116.1	27.4	143.4
1,2,4-Trimethylbenzene		109.6	81.4	130.8
1,3,5-Trimethylbenzene		108.6	81.3	128.9
Tetrachloroethene		96.9	74.5	124.5

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 210429A7.2350002M, Parent Sample ID: S23500.01

Run in Batch: 210429A7, Run Date: 04/29/2021 13:16, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Tetrahydrofuran	*	129.3	59.0	117.9
Toluene		111.0	79.8	124.5
Trichloroethene		108.2	79.7	124.2
Trichlorofluoromethane		103.5	59.7	151.8
Vinyl chloride		106.4	43.5	149.1
o-Xylene		109.6	80.2	131.0
p,m-Xylene		110.3	79.4	132.2

Matrix Spike Duplicate (MSD)

Lab Sample ID: 210429A7.2350003N, Parent Sample ID: 210429A7.2350002M

Run in Batch: 210429A7, Run Date: 04/29/2021 13:39, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		107.1	29.9	161.5	13.6	30.0
Acrylonitrile		110.3	69.9	128.9	15.2	30.0
2-Butanone (MEK)		109.6	44.0	134.4	15.2	30.0
Benzene		97.1	79.9	124.9	12.6	30.0
n-Butylbenzene		96.6	80.0	133.3	16.4	30.0
Bromobenzene		98.7	78.7	124.6	14.1	30.0
Bromochloromethane		100.9	78.2	120.8	11.0	30.0
Bromodichloromethane		100.8	80.4	128.2	12.5	30.0
Bromoform		102.9	69.4	128.0	17.2	30.0
Bromomethane		98.4	56.8	151.3	10.6	30.0
sec-Butylbenzene		93.0	77.4	129.8	15.9	30.0
tert-Butylbenzene		92.7	80.7	128.9	15.1	30.0
Carbon disulfide		93.7	63.8	137.4	11.7	30.0
Carbon tetrachloride		93.8	72.6	133.0	14.7	30.0
Chlorobenzene		97.6	79.2	122.7	14.4	30.0
Chloroethane		94.5	53.4	149.4	12.9	30.0
Chloroform		97.8	78.4	124.0	10.6	30.0
Chloromethane		95.7	23.8	166.5	12.3	30.0
1,1-Dichloroethane		98.2	71.5	126.2	12.0	30.0
1,1-Dichloroethene		92.9	69.6	139.4	13.2	30.0
1,2-Dibromo-3-chloropropane		105.3	21.2	189.4	17.1	30.0
1,2-Dibromoethane		102.5	70.3	133.7	15.7	30.0
1,2-Dichlorobenzene		98.8	10.0	166.2	14.0	30.0
1,2-Dichloroethane		97.7	76.0	126.3	12.8	30.0
1,2-Dichloropropane		101.5	78.6	126.4	12.3	30.0
1,3-Dichlorobenzene		98.0	77.0	131.3	13.7	30.0
1,4-Dichlorobenzene		98.5	20.7	137.7	15.0	30.0
cis-1,2-Dichloroethene		98.2	76.6	122.1	11.6	30.0
cis-1,3-Dichloropropene		106.8	79.8	129.9	13.3	30.0
Dibromochloromethane		102.2	74.6	127.2	15.3	30.0
Dibromomethane		100.0	76.9	122.1	13.6	30.0
Dichlorodifluoromethane		75.9	10.0	222.8	14.8	30.0
Diethyl ether		103.3	67.4	121.2	11.8	30.0
trans-1,2-Dichloroethene		97.5	73.6	129.3	11.2	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 210429A7.2350003N, Parent Sample ID: 210429A7.2350002M

Run in Batch: 210429A7, Run Date: 04/29/2021 13:39, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
trans-1,3-Dichloropropene		110.3	74.0	131.3	12.9	30.0
trans-1,4-Dichloro-2-butene		104.1	68.6	135.4	19.0	30.0
Ethylbenzene		95.3	79.5	129.1	14.6	30.0
2-Hexanone		105.2	55.4	136.9	17.3	30.0
Hexachloroethane		99.2	23.8	138.1	17.6	30.0
p-Isopropyltoluene		94.3	79.8	137.5	16.4	30.0
Isopropylbenzene		93.0	74.4	121.5	15.1	30.0
2-Methylnaphthalene		115.0	25.5	165.5	9.4	30.0
4-Methyl-2-pentanone (MIBK)		102.7	71.6	125.2	17.2	30.0
tert-Methyl butyl ether (MTBE)		101.6	73.2	122.4	11.9	30.0
Methyl iodide		97.3	68.8	116.4	11.6	30.0
Methylene chloride		95.6	73.3	121.1	10.4	30.0
Naphthalene		103.0	32.9	135.8	14.2	30.0
n-Propylbenzene		94.3	82.0	130.7	14.9	30.0
Styrene		98.2	69.5	126.7	13.8	30.0
1,1,1,2-Tetrachloroethane		97.4	80.3	128.2	14.5	30.0
1,1,1-Trichloroethane		92.8	79.4	130.9	12.3	30.0
1,1,2,2-Tetrachloroethane		101.3	79.8	126.3	16.4	30.0
1,1,2-Trichloroethane		103.6	78.7	123.1	15.1	30.0
1,2,3-Trichlorobenzene		103.9	75.4	131.4	11.7	30.0
1,2,3-Trichloropropane		99.5	78.3	138.8	18.1	30.0
1,2,3-Trimethylbenzene		96.9	76.3	124.2	15.5	30.0
1,2,4-Trichlorobenzene		102.3	27.4	143.4	12.7	30.0
1,2,4-Trimethylbenzene		95.4	81.4	130.8	13.9	30.0
1,3,5-Trimethylbenzene		94.1	81.3	128.9	14.3	30.0
Tetrachloroethene		83.7	74.5	124.5	14.7	30.0
Tetrahydrofuran		107.6	59.0	117.9	18.3	30.0
Toluene		97.6	79.8	124.5	12.8	30.0
Trichloroethene		94.4	79.7	124.2	13.7	30.0
Trichlorofluoromethane		90.2	59.7	151.8	13.8	30.0
Vinyl chloride		94.9	43.5	149.1	11.4	30.0
o-Xylene		94.1	80.2	131.0	15.2	30.0
p,m-Xylene		94.8	79.4	132.2	15.2	30.0



Analytical Laboratory Report

Report ID: S23542.01(01)
Generated on 05/03/2021

Report to

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

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Additional Contacts: Kevin Schneider

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

Report Summary

Lab Sample ID(s): S23542.01-S23542.06
Project: RACER Hemphill Rd Industrial Land
Collected Date(s): 04/23/2021 - 04/26/2021
Submitted Date/Time: 04/26/2021 13:40
Sampled by: Kevin Schneider
P.O. #: 1940002902

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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)

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

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

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

Report Narrative

There is no additional narrative for this analytical report



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
Pennsylvania DEP	#68-05884

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 (6 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S23542.01	OBG MW-5s	Groundwater	04/23/21 14:47
S23542.02	Field Blank - 042321	Groundwater	04/23/21 14:40
S23542.03	DUP-042321	Groundwater	04/23/21 00:01
S23542.04	OBG OS MW-1	Groundwater	04/26/21 11:12
S23542.05	OBG OS MW-2	Groundwater	04/26/21 12:17
S23542.06	Trip Blank - 042621	Groundwater	04/26/21 00:01



Analytical Laboratory Report

Lab Sample ID: S23542.01

Sample Tag: OBG MW-5s

Collected Date/Time: 04/23/2021 14:47

Matrix: Groundwater

COC Reference: 137306

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.7	IR
3	40ml Glass	HCL	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	
Metal Digestion	Completed	SW3015A	05/03/21 10:10	CCM	
Metal Digestion	Completed	SW3015A	05/03/21 10:10	CCM	

Metals

Method: E200.8, Run Date: 05/03/21 12:37, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.004	0.002		mg/L	5	7440-38-2	
Barium	0.946	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: 05/03/21 12:40, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.004	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	1.03	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: 04/29/21 20:12, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23542.01 (continued)

Sample Tag: OBG OS MW-5s

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 20:12, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23542.02

Sample Tag: Field Blank - 042321

Collected Date/Time: 04/23/2021 14:40

Matrix: Groundwater

COC Reference: 137306

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.7	IR
3	40ml Glass	HCL	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	
Metal Digestion	Completed	SW3015A	05/03/21 10:10	CCM	

Metals

Method: E200.8, Run Date: 05/03/21 11:45, 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: 04/29/21 15:58, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	



Analytical Laboratory Report

Lab Sample ID: S23542.02 (continued)

Sample Tag: Field Blank - 042321

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 15:58, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23542.03

Sample Tag: DUP-042321

Collected Date/Time: 04/23/2021 00:01

Matrix: Groundwater

COC Reference: 137306

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.7	IR
3	40ml Glass	HCL	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	
Metal Digestion	Completed	SW3015A	05/03/21 10:10	CCM	
Metal Digestion	Completed	SW3015A	05/03/21 10:10	CCM	

Metals

Method: E200.8, Run Date: 05/03/21 12:43, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.006	0.002		mg/L	5	7440-38-2	
Barium	0.982	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: 05/03/21 12:46, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.005	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.984	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: 04/29/21 20:35, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23542.03 (continued)

Sample Tag: DUP-042321

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 20:35, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23542.04

Sample Tag: OBG OS MW-1

Collected Date/Time: 04/26/2021 11:12

Matrix: Groundwater

COC Reference: 137306

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.7	IR
3	40ml Glass	HCL	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	
Metal Digestion	Completed	SW3015A	05/03/21 10:10	CCM	
Metal Digestion	Completed	SW3015A	05/03/21 10:10	CCM	

Metals

Method: E200.8, Run Date: 05/03/21 12:48, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.038	0.002		mg/L	5	7440-38-2	
Barium	0.820	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: 05/03/21 12:52, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.026	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.820	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: 04/29/21 20:58, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23542.04 (continued)

Sample Tag: OBG OS MW-1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 20:58, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23542.05

Sample Tag: OBG OS MW-2

Collected Date/Time: 04/26/2021 12:17

Matrix: Groundwater

COC Reference: 137306

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.7	IR
3	40ml Glass	HCL	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	
Metal Digestion	Completed	SW3015A	05/03/21 10:10	CCM	
Metal Digestion	Completed	SW3015A	05/03/21 10:10	CCM	

Metals

Method: E200.8, Run Date: 05/03/21 12:54, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	0.055	0.002		mg/L	5	7440-38-2	
Barium	0.222	0.005		mg/L	5	7440-39-3	
Lead	0.005	0.003		mg/L	5	7439-92-1	
Selenium	Not detected	0.005		mg/L	5	7782-49-2	
Zinc	0.013	0.005		mg/L	5	7440-66-6	

Method: E200.8, Run Date: 05/03/21 12:57, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic, Dissolved	0.048	0.002		mg/L	5	7440-38-2	
Barium, Dissolved	0.220	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	0.008	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 21:21, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	



Analytical Laboratory Report

Lab Sample ID: S23542.05 (continued)

Sample Tag: OBG OS MW-2

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 21:21, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S23542.06

Sample Tag: Trip Blank - 042621

Collected Date/Time: 04/26/2021 00:01

Matrix: Groundwater

COC Reference: 137306

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/30/21 11:00	BML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 15:35, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	50		ug/L	1	67-64-1	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Benzene	Not detected	1		ug/L	1	71-43-2	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Bromoform	Not detected	1		ug/L	1	75-25-2	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	



Analytical Laboratory Report

Lab Sample ID: S23542.06 (continued)

Sample Tag: Trip Blank - 042621

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/29/21 15:35, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Styrene	Not detected	1		ug/L	1	100-42-5	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Toluene	Not detected	1		ug/L	1	108-88-3	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
o-Xylene	Not detected	1		ug/L	1	95-47-6	
p,m-Xylene*	Not detected	2		ug/L	1		

Merit Laboratories Login Checklist

Lab Set ID: S23542

Client: OBG02 (O'Brien & Gere Engineers, Inc. - East Lansing, MI)

Project: RACER Hemphill Rd Industrial Land

Submitted: 04/26/2021 13:40 Login User: REJ

Attention: Clifford Yantz

Address: O'Brien & Gere Engineers, Inc.
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211

FAX:

Email: Clifford.Yantz@ramboll.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 4.7 |
| 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did any samples need to be preserved in the lab? | Both metals bottles for .01 and .03 |

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: S23542 Submitted: 04/26/2021 13:40
Client: OBG02 (O'Brien & Gere Engineers, Inc. - East Lansing, MI)
Project: RACER Hemphill Rd Industrial Land

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

Initial Preservation Check: 04/26/2021 14:05 REJ
Preservation Recheck (E200.8): 04/27/2021 09:50 MMC

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S23542.01	125ml Plastic HNO3	5	1.0	<2	Lot# 258255
S23542.01	125ml Plastic HNO3	5	0.5	<2	Lot# 258255
S23542.02	125ml Plastic HNO3	<2			
S23542.03	125ml Plastic HNO3	5	0.5	<2	Lot# 258255
S23542.03	125ml Plastic HNO3	5	0.5	<2	Lot# 258255
S23542.04	125ml Plastic HNO3	<2			
S23542.04	125ml Plastic HNO3	<2			
S23542.05	125ml Plastic HNO3	<2			
S23542.05	125ml Plastic HNO3	<2			
S23542.06	125ml Plastic HNO3	<2			
S23542.06	125ml Plastic HNO3	<2			



Quality Control Report

Report ID: QC-S23542-01
Generated on 05/03/2021

Report to

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

Phone: 313-333-0211 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): S23542.01-S23542.06
Project: RACER Hemphill Rd Industrial Land
Submitted Date/Time: 04/26/2021 13:40
Sampled by: Kevin Schneider
P.O. #: 1940002902

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-7)
Prep Batch Summary (Pages 8-9)
Surrogates per Lab Sample (Pages 10-15)
Surrogates per QC Sample (Page 16)
Batch QC Results (Pages 17-26)

Report Flag Descriptions

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

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

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S23542.01

Sample Tag: OBG MW-5s

Collected Date/Time: 04/23/2021 14:47

Matrix: Groundwater

COC Reference: 137306

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	05/03/21 12:40	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	05/03/21 12:37	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	05/03/21 12:40	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Barium	E200.8	05/03/21 12:37	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	05/03/21 12:40	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Lead	E200.8	05/03/21 12:37	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	05/03/21 12:40	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	05/03/21 12:37	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	05/03/21 12:40	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	05/03/21 12:37	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 20:12	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S23542.02

Sample Tag: Field Blank - 042321

Collected Date/Time: 04/23/2021 14:40

Matrix: Groundwater

COC Reference: 137306

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	E200.8	05/03/21 11:45	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Barium	E200.8	05/03/21 11:45	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Lead	E200.8	05/03/21 11:45	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	05/03/21 11:45	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	05/03/21 11:45	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 15:58	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S23542.03

Sample Tag: DUP-042321

Collected Date/Time: 04/23/2021 00:01

Matrix: Groundwater

COC Reference: 137306

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	05/03/21 12:46	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	05/03/21 12:43	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	05/03/21 12:46	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Barium	E200.8	05/03/21 12:43	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	05/03/21 12:46	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Lead	E200.8	05/03/21 12:43	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	05/03/21 12:46	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	05/03/21 12:43	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	05/03/21 12:46	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	05/03/21 12:43	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 20:35	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S23542.04

Sample Tag: OBG OS MW-1

Collected Date/Time: 04/26/2021 11:12

Matrix: Groundwater

COC Reference: 137306

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	05/03/21 12:52	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	05/03/21 12:48	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	05/03/21 12:52	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Barium	E200.8	05/03/21 12:48	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	05/03/21 12:52	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Lead	E200.8	05/03/21 12:48	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	05/03/21 12:52	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	05/03/21 12:48	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	05/03/21 12:52	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	05/03/21 12:48	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 20:58	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S23542.05

Sample Tag: OBG OS MW-2

Collected Date/Time: 04/26/2021 12:17

Matrix: Groundwater

COC Reference: 137306

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	E200.8	05/03/21 12:57	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Arsenic	E200.8	05/03/21 12:54	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Barium, Dissolved	E200.8	05/03/21 12:57	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Barium	E200.8	05/03/21 12:54	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Lead, Dissolved	E200.8	05/03/21 12:57	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Lead	E200.8	05/03/21 12:54	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Selenium, Dissolved	E200.8	05/03/21 12:57	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Selenium	E200.8	05/03/21 12:54	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	05/03/21 12:57	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Zinc	E200.8	05/03/21 12:54	MT4-21-0503A	MTD-050321-1	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 21:21	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S23542.06

Sample Tag: Trip Blank - 042621

Collected Date/Time: 04/26/2021 00:01

Matrix: Groundwater

COC Reference: 137306

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 15:35	210429A7	VF210429W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-050321-1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23542.01	Arsenic, Dissolved	E200.8	05/03/21 12:40	MT4-21-0503A
S23542.01	Arsenic	E200.8	05/03/21 12:37	MT4-21-0503A
S23542.01	Barium, Dissolved	E200.8	05/03/21 12:40	MT4-21-0503A
S23542.01	Barium	E200.8	05/03/21 12:37	MT4-21-0503A
S23542.01	Lead, Dissolved	E200.8	05/03/21 12:40	MT4-21-0503A
S23542.01	Lead	E200.8	05/03/21 12:37	MT4-21-0503A
S23542.01	Selenium, Dissolved	E200.8	05/03/21 12:40	MT4-21-0503A
S23542.01	Selenium	E200.8	05/03/21 12:37	MT4-21-0503A
S23542.01	Zinc, Dissolved	E200.8	05/03/21 12:40	MT4-21-0503A
S23542.01	Zinc	E200.8	05/03/21 12:37	MT4-21-0503A
S23542.02	Arsenic	E200.8	05/03/21 11:45	MT4-21-0503A
S23542.02	Barium	E200.8	05/03/21 11:45	MT4-21-0503A
S23542.02	Lead	E200.8	05/03/21 11:45	MT4-21-0503A
S23542.02	Selenium	E200.8	05/03/21 11:45	MT4-21-0503A
S23542.02	Zinc	E200.8	05/03/21 11:45	MT4-21-0503A
S23542.03	Arsenic, Dissolved	E200.8	05/03/21 12:46	MT4-21-0503A
S23542.03	Arsenic	E200.8	05/03/21 12:43	MT4-21-0503A
S23542.03	Barium, Dissolved	E200.8	05/03/21 12:46	MT4-21-0503A
S23542.03	Barium	E200.8	05/03/21 12:43	MT4-21-0503A
S23542.03	Lead, Dissolved	E200.8	05/03/21 12:46	MT4-21-0503A
S23542.03	Lead	E200.8	05/03/21 12:43	MT4-21-0503A
S23542.03	Selenium, Dissolved	E200.8	05/03/21 12:46	MT4-21-0503A
S23542.03	Selenium	E200.8	05/03/21 12:43	MT4-21-0503A
S23542.03	Zinc, Dissolved	E200.8	05/03/21 12:46	MT4-21-0503A
S23542.03	Zinc	E200.8	05/03/21 12:43	MT4-21-0503A
S23542.04	Arsenic, Dissolved	E200.8	05/03/21 12:52	MT4-21-0503A
S23542.04	Arsenic	E200.8	05/03/21 12:48	MT4-21-0503A
S23542.04	Barium, Dissolved	E200.8	05/03/21 12:52	MT4-21-0503A
S23542.04	Barium	E200.8	05/03/21 12:48	MT4-21-0503A
S23542.04	Lead, Dissolved	E200.8	05/03/21 12:52	MT4-21-0503A
S23542.04	Lead	E200.8	05/03/21 12:48	MT4-21-0503A
S23542.04	Selenium, Dissolved	E200.8	05/03/21 12:52	MT4-21-0503A
S23542.04	Selenium	E200.8	05/03/21 12:48	MT4-21-0503A
S23542.04	Zinc, Dissolved	E200.8	05/03/21 12:52	MT4-21-0503A
S23542.04	Zinc	E200.8	05/03/21 12:48	MT4-21-0503A
S23542.05	Arsenic, Dissolved	E200.8	05/03/21 12:57	MT4-21-0503A
S23542.05	Arsenic	E200.8	05/03/21 12:54	MT4-21-0503A
S23542.05	Barium, Dissolved	E200.8	05/03/21 12:57	MT4-21-0503A
S23542.05	Barium	E200.8	05/03/21 12:54	MT4-21-0503A
S23542.05	Lead, Dissolved	E200.8	05/03/21 12:57	MT4-21-0503A
S23542.05	Lead	E200.8	05/03/21 12:54	MT4-21-0503A
S23542.05	Selenium, Dissolved	E200.8	05/03/21 12:57	MT4-21-0503A
S23542.05	Selenium	E200.8	05/03/21 12:54	MT4-21-0503A
S23542.05	Zinc, Dissolved	E200.8	05/03/21 12:57	MT4-21-0503A
S23542.05	Zinc	E200.8	05/03/21 12:54	MT4-21-0503A

Organics - Volatiles, Prep Batch ID: VF210429W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23542.01	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 20:12	210429A7

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23542.02	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 15:58	210429A7
S23542.03	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 20:35	210429A7
S23542.04	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 20:58	210429A7
S23542.05	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 21:21	210429A7
S23542.06	Volatile Organics - DEQ List	SW5030C/8260C	04/29/21 15:35	210429A7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23542.01

Sample Tag: OBG MW-5s

Collected Date/Time: 04/23/2021 14:47

Matrix: Groundwater

COC Reference: 137306

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210429A7, Run Date: 04/29/2021 20:12, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.4	80.0	124.0
1,2-Dichloroethane-D4		99.4	72.0	125.0
Toluene-D8		102.5	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23542.02

Sample Tag: Field Blank - 042321

Collected Date/Time: 04/23/2021 14:40

Matrix: Groundwater

COC Reference: 137306

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210429A7, Run Date: 04/29/2021 15:58, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.4	80.0	124.0
1,2-Dichloroethane-D4		101.8	72.0	125.0
Toluene-D8		102.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23542.03

Sample Tag: DUP-042321

Collected Date/Time: 04/23/2021 00:01

Matrix: Groundwater

COC Reference: 137306

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210429A7, Run Date: 04/29/2021 20:35, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.0	80.0	124.0
1,2-Dichloroethane-D4		107.8	72.0	125.0
Toluene-D8		102.4	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23542.04

Sample Tag: OBG OS MW-1

Collected Date/Time: 04/26/2021 11:12

Matrix: Groundwater

COC Reference: 137306

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210429A7, Run Date: 04/29/2021 20:58, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		104.1	80.0	124.0
1,2-Dichloroethane-D4		109.2	72.0	125.0
Toluene-D8		103.7	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23542.05

Sample Tag: OBG OS MW-2

Collected Date/Time: 04/26/2021 12:17

Matrix: Groundwater

COC Reference: 137306

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210429A7, Run Date: 04/29/2021 21:21, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		104.8	80.0	124.0
1,2-Dichloroethane-D4		105.8	72.0	125.0
Toluene-D8		101.5	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S23542.06

Sample Tag: Trip Blank - 042621

Collected Date/Time: 04/26/2021 00:01

Matrix: Groundwater

COC Reference: 137306

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 210429A7, Run Date: 04/29/2021 15:35, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.2	80.0	124.0
1,2-Dichloroethane-D4		100.1	72.0	125.0
Toluene-D8		102.5	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF210429W1

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

Blank (BLK)

Lab Sample ID: 210429A7.BLKW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 14:25, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.7	80.0	124.0
1,2-Dichloroethane-D4		100.9	72.0	125.0
Toluene-D8		103.4	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:29, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.8	80.0	124.0
1,2-Dichloroethane-D4		99.7	72.0	125.0
Toluene-D8		103.3	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 210429A7.LCSDW29A, Parent Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:53, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.4	80.0	124.0
1,2-Dichloroethane-D4		102.2	72.0	125.0
Toluene-D8		103.3	89.0	112.0

Matrix Spike (MS)

Lab Sample ID: 210429A7.2350002M, Parent Sample ID: S23500.01

Run in Batch: 210429A7, Run Date: 04/29/2021 13:16, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		104.3	80.0	124.0
1,2-Dichloroethane-D4		105.0	72.0	125.0
Toluene-D8		103.5	89.0	112.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 210429A7.2350003N, Parent Sample ID: 210429A7.2350002M

Run in Batch: 210429A7, Run Date: 04/29/2021 13:39, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.3	80.0	124.0
1,2-Dichloroethane-D4		109.9	72.0	125.0
Toluene-D8		103.6	89.0	112.0

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-050321-1

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

Blank (BLK)

Lab Sample ID: MT4-21-0503A.022.LRB

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 11:42, Prep Date: 05/03/2021, 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

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-21-0503A.020.LCS

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 11:36, Prep Date: 05/03/2021, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		102	85	115
Barium		97	85	115
Lead		103	85	115
Selenium		96	85	115
Zinc		100	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-21-0503A.043.MS, Parent Sample ID: S23620.04

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 12:22, Prep Date: 05/03/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		112	75	125
Barium		110	75	125
Lead		102	75	125
Selenium		103	75	125
Zinc		107	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-21-0503A.067.MS, Parent Sample ID: S23500.06

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 12:59, Prep Date: 05/03/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		106	75	125
Barium		103	75	125
Lead		102	75	125
Selenium		98	75	125
Zinc		109	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-21-0503A.044.MSD, Parent Sample ID: MT4-21-0503A.043.MS

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 12:24, Prep Date: 05/03/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		107	75	125	5	20
Barium		99	75	125	6	20
Lead		100	75	125	2	20
Selenium		101	75	125	2	20
Zinc		103	75	125	4	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-050321-1 (continued)

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

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-21-0503A.068.MSD, Parent Sample ID: MT4-21-0503A.067.MS

Run in Batch: MT4-21-0503A, Run Date: 05/03/2021 13:00, Prep Date: 05/03/2021, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		107	75	125	1	20
Barium		93	75	125	5	20
Lead		102	75	125	1	20
Selenium		106	75	125	8	20
Zinc		104	75	125	5	20

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1

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

Blank (BLK)

Lab Sample ID: 210429A7.BLKW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 14:25, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acetone		ND	10.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Benzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Bromoform		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Chloroform		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Diethyl ether		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
2-Hexanone		ND	10.00	ug/l
Hexachloroethane		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Methyl iodide		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 210429A7.BLKW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 14:25, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Naphthalene		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Toluene		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:29, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		97.6	29.9	161.5
Acrylonitrile		101.5	69.9	128.9
2-Butanone (MEK)		98.8	44.0	134.4
Benzene		92.8	79.9	124.9
n-Butylbenzene		98.5	80.0	133.3
Bromobenzene		95.7	78.7	124.6
Bromochloromethane		94.0	78.2	120.8
Bromodichloromethane		95.0	80.4	128.2
Bromoform		99.5	69.4	128.0
Bromomethane		94.3	56.8	151.3
sec-Butylbenzene		95.9	77.4	129.8
tert-Butylbenzene		93.8	80.7	128.9
Carbon disulfide		89.3	63.8	137.4
Carbon tetrachloride		91.7	72.6	133.0
Chlorobenzene		95.9	79.2	122.7
Chloroethane		90.8	53.4	149.4
Chloroform		91.0	78.4	124.0
Chloromethane		93.1	23.8	166.5
1,1-Dichloroethane		92.1	71.5	126.2
1,1-Dichloroethene		89.3	69.6	139.4

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:29, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2-Dibromo-3-chloropropane		99.4	21.2	189.4
1,2-Dibromoethane		99.6	70.3	133.7
1,2-Dichlorobenzene		96.7	10.0	166.2
1,2-Dichloroethane		92.4	76.0	126.3
1,2-Dichloropropane		95.9	78.6	126.4
1,3-Dichlorobenzene		97.4	77.0	131.3
1,4-Dichlorobenzene		98.7	20.7	137.7
cis-1,2-Dichloroethene		91.6	76.6	122.1
cis-1,3-Dichloropropene		101.7	79.8	129.9
Dibromochloromethane		98.8	74.6	127.2
Dibromomethane		96.3	76.9	122.1
Dichlorodifluoromethane		77.3	10.0	222.8
Diethyl ether		96.5	67.4	121.2
trans-1,2-Dichloroethene		91.6	73.6	129.3
trans-1,3-Dichloropropene		102.4	74.0	131.3
trans-1,4-Dichloro-2-butene		102.4	68.6	135.4
Ethylbenzene		94.8	79.5	129.1
2-Hexanone		96.7	55.4	136.9
Hexachloroethane		101.2	23.8	138.1
p-Isopropyltoluene		96.5	79.8	137.5
Isopropylbenzene		93.7	74.4	121.5
2-Methylnaphthalene		102.4	25.5	165.5
4-Methyl-2-pentanone (MIBK)		96.2	71.6	125.2
tert-Methyl butyl ether (MTBE)		93.0	73.2	122.4
Methyl iodide		92.2	68.8	116.4
Methylene chloride		88.8	73.3	121.1
Naphthalene		98.4	32.9	135.8
n-Propylbenzene		96.1	82.0	130.7
Styrene		96.7	69.5	126.7
1,1,1,2-Tetrachloroethane		96.6	80.3	128.2
1,1,1-Trichloroethane		88.7	79.4	130.9
1,1,2,2-Tetrachloroethane		97.2	79.8	126.3
1,1,2-Trichloroethane		98.6	78.7	123.1
1,2,3-Trichlorobenzene		97.4	75.4	131.4
1,2,3-Trichloropropane		96.1	78.3	138.8
1,2,3-Trimethylbenzene		97.7	76.3	124.2
1,2,4-Trichlorobenzene		98.6	27.4	143.4
1,2,4-Trimethylbenzene		95.0	81.4	130.8
1,3,5-Trimethylbenzene		94.2	81.3	128.9
Tetrachloroethene		84.8	74.5	124.5
Tetrahydrofuran		100.5	59.0	117.9
Toluene		93.4	79.8	124.5
Trichloroethene		91.5	79.7	124.2
Trichlorofluoromethane		89.6	59.7	151.8
Vinyl chloride		90.1	43.5	149.1
o-Xylene		93.7	80.2	131.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:29, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		94.3	79.4	132.2

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 210429A7.LCSDW29A, Parent Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:53, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		107.9	29.9	161.5	10.1	30.0
Acrylonitrile		112.7	69.9	128.9	10.5	30.0
2-Butanone (MEK)		111.1	44.0	134.4	11.7	30.0
Benzene		97.4	79.9	124.9	4.9	30.0
n-Butylbenzene		102.2	80.0	133.3	3.7	30.0
Bromobenzene		99.3	78.7	124.6	3.7	30.0
Bromochloromethane		99.6	78.2	120.8	5.8	30.0
Bromodichloromethane		101.0	80.4	128.2	6.0	30.0
Bromoform		107.0	69.4	128.0	7.2	30.0
Bromomethane		95.7	56.8	151.3	1.4	30.0
sec-Butylbenzene		99.9	77.4	129.8	4.0	30.0
tert-Butylbenzene		95.8	80.7	128.9	2.1	30.0
Carbon disulfide		89.2	63.8	137.4	0.1	30.0
Carbon tetrachloride		95.6	72.6	133.0	4.2	30.0
Chlorobenzene		99.3	79.2	122.7	3.4	30.0
Chloroethane		94.0	53.4	149.4	3.5	30.0
Chloroform		96.9	78.4	124.0	6.2	30.0
Chloromethane		96.8	23.8	166.5	3.9	30.0
1,1-Dichloroethane		97.9	71.5	126.2	6.0	30.0
1,1-Dichloroethene		93.9	69.6	139.4	5.0	30.0
1,2-Dibromo-3-chloropropane		110.9	21.2	189.4	10.9	30.0
1,2-Dibromoethane		104.7	70.3	133.7	5.0	30.0
1,2-Dichlorobenzene		102.4	10.0	166.2	5.7	30.0
1,2-Dichloroethane		98.2	76.0	126.3	6.1	30.0
1,2-Dichloropropane		101.9	78.6	126.4	6.0	30.0
1,3-Dichlorobenzene		101.8	77.0	131.3	4.4	30.0
1,4-Dichlorobenzene		102.7	20.7	137.7	4.0	30.0
cis-1,2-Dichloroethene		97.7	76.6	122.1	6.4	30.0
cis-1,3-Dichloropropene		107.5	79.8	129.9	5.5	30.0
Dibromochloromethane		103.9	74.6	127.2	5.0	30.0
Dibromomethane		101.9	76.9	122.1	5.6	30.0
Dichlorodifluoromethane		79.0	10.0	222.8	2.2	30.0
Diethyl ether		104.6	67.4	121.2	8.0	30.0
trans-1,2-Dichloroethene		96.2	73.6	129.3	4.8	30.0
trans-1,3-Dichloropropene		110.4	74.0	131.3	7.6	30.0
trans-1,4-Dichloro-2-butene		110.0	68.6	135.4	7.1	30.0
Ethylbenzene		98.0	79.5	129.1	3.3	30.0
2-Hexanone		109.3	55.4	136.9	12.2	30.0
Hexachloroethane		104.2	23.8	138.1	2.9	30.0
p-Isopropyltoluene		100.9	79.8	137.5	4.4	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 210429A7.LCSDW29A, Parent Sample ID: 210429A7.LCSW29A

Run in Batch: 210429A7, Run Date: 04/29/2021 12:53, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isopropylbenzene		96.8	74.4	121.5	3.3	30.0
2-Methylnaphthalene		107.9	25.5	165.5	5.2	30.0
4-Methyl-2-pentanone (MIBK)		106.8	71.6	125.2	10.4	30.0
tert-Methyl butyl ether (MTBE)		101.3	73.2	122.4	8.6	30.0
Methyl iodide		97.0	68.8	116.4	5.1	30.0
Methylene chloride		95.1	73.3	121.1	6.9	30.0
Naphthalene		104.3	32.9	135.8	5.8	30.0
n-Propylbenzene		97.4	82.0	130.7	1.4	30.0
Styrene		100.3	69.5	126.7	3.7	30.0
1,1,1,2-Tetrachloroethane		101.0	80.3	128.2	4.4	30.0
1,1,1-Trichloroethane		92.6	79.4	130.9	4.3	30.0
1,1,2,2-Tetrachloroethane		104.7	79.8	126.3	7.5	30.0
1,1,2-Trichloroethane		105.8	78.7	123.1	7.1	30.0
1,2,3-Trichlorobenzene		101.4	75.4	131.4	4.0	30.0
1,2,3-Trichloropropane		103.9	78.3	138.8	7.8	30.0
1,2,3-Trimethylbenzene		103.0	76.3	124.2	5.3	30.0
1,2,4-Trichlorobenzene		102.5	27.4	143.4	3.9	30.0
1,2,4-Trimethylbenzene		98.4	81.4	130.8	3.5	30.0
1,3,5-Trimethylbenzene		97.4	81.3	128.9	3.4	30.0
Tetrachloroethene		86.9	74.5	124.5	2.4	30.0
Tetrahydrofuran		109.4	59.0	117.9	8.5	30.0
Toluene		98.1	79.8	124.5	4.9	30.0
Trichloroethene		95.1	79.7	124.2	3.9	30.0
Trichlorofluoromethane		92.3	59.7	151.8	2.9	30.0
Vinyl chloride		91.7	43.5	149.1	1.8	30.0
o-Xylene		97.6	80.2	131.0	4.1	30.0
p,m-Xylene		98.2	79.4	132.2	4.1	30.0

Matrix Spike (MS)

Lab Sample ID: 210429A7.2350002M, Parent Sample ID: S23500.01

Run in Batch: 210429A7, Run Date: 04/29/2021 13:16, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		122.8	29.9	161.5
Acrylonitrile		128.4	69.9	128.9
2-Butanone (MEK)		127.6	44.0	134.4
Benzene		110.2	79.9	124.9
n-Butylbenzene		113.9	80.0	133.3
Bromobenzene		113.6	78.7	124.6
Bromochloromethane		112.7	78.2	120.8
Bromodichloromethane		114.3	80.4	128.2
Bromoform		122.3	69.4	128.0
Bromomethane		109.4	56.8	151.3
sec-Butylbenzene		109.1	77.4	129.8
tert-Butylbenzene		107.8	80.7	128.9
Carbon disulfide		105.3	63.8	137.4
Carbon tetrachloride		108.7	72.6	133.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 210429A7.2350002M, Parent Sample ID: S23500.01

Run in Batch: 210429A7, Run Date: 04/29/2021 13:16, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chlorobenzene		112.7	79.2	122.7
Chloroethane		107.5	53.4	149.4
Chloroform		108.7	78.4	124.0
Chloromethane		108.2	23.8	166.5
1,1-Dichloroethane		110.7	71.5	126.2
1,1-Dichloroethene		106.1	69.6	139.4
1,2-Dibromo-3-chloropropane		125.0	21.2	189.4
1,2-Dibromoethane		120.0	70.3	133.7
1,2-Dichlorobenzene		113.7	10.0	166.2
1,2-Dichloroethane		111.1	76.0	126.3
1,2-Dichloropropane		114.8	78.6	126.4
1,3-Dichlorobenzene		112.4	77.0	131.3
1,4-Dichlorobenzene		114.5	20.7	137.7
cis-1,2-Dichloroethene		110.2	76.6	122.1
cis-1,3-Dichloropropene		122.0	79.8	129.9
Dibromochloromethane		119.1	74.6	127.2
Dibromomethane		114.6	76.9	122.1
Dichlorodifluoromethane		88.1	10.0	222.8
Diethyl ether		116.2	67.4	121.2
trans-1,2-Dichloroethene		109.1	73.6	129.3
trans-1,3-Dichloropropene		125.5	74.0	131.3
trans-1,4-Dichloro-2-butene		125.9	68.6	135.4
Ethylbenzene		110.3	79.5	129.1
2-Hexanone		125.1	55.4	136.9
Hexachloroethane		118.4	23.8	138.1
p-Isopropyltoluene		111.2	79.8	137.5
Isopropylbenzene		108.2	74.4	121.5
2-Methylnaphthalene		126.4	25.5	165.5
4-Methyl-2-pentanone (MIBK)		122.0	71.6	125.2
tert-Methyl butyl ether (MTBE)		114.5	73.2	122.4
Methyl iodide		109.3	68.8	116.4
Methylene chloride		106.1	73.3	121.1
Naphthalene		118.7	32.9	135.8
n-Propylbenzene		109.5	82.0	130.7
Styrene		112.8	69.5	126.7
1,1,1,2-Tetrachloroethane		112.7	80.3	128.2
1,1,1-Trichloroethane		104.9	79.4	130.9
1,1,2,2-Tetrachloroethane		119.4	79.8	126.3
1,1,2-Trichloroethane		120.5	78.7	123.1
1,2,3-Trichlorobenzene		116.8	75.4	131.4
1,2,3-Trichloropropane		119.3	78.3	138.8
1,2,3-Trimethylbenzene		113.1	76.3	124.2
1,2,4-Trichlorobenzene		116.1	27.4	143.4
1,2,4-Trimethylbenzene		109.6	81.4	130.8
1,3,5-Trimethylbenzene		108.6	81.3	128.9
Tetrachloroethene		96.9	74.5	124.5

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 210429A7.2350002M, Parent Sample ID: S23500.01

Run in Batch: 210429A7, Run Date: 04/29/2021 13:16, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Tetrahydrofuran	*	129.3	59.0	117.9
Toluene		111.0	79.8	124.5
Trichloroethene		108.2	79.7	124.2
Trichlorofluoromethane		103.5	59.7	151.8
Vinyl chloride		106.4	43.5	149.1
o-Xylene		109.6	80.2	131.0
p,m-Xylene		110.3	79.4	132.2

Matrix Spike Duplicate (MSD)

Lab Sample ID: 210429A7.2350003N, Parent Sample ID: 210429A7.2350002M

Run in Batch: 210429A7, Run Date: 04/29/2021 13:39, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		107.1	29.9	161.5	13.6	30.0
Acrylonitrile		110.3	69.9	128.9	15.2	30.0
2-Butanone (MEK)		109.6	44.0	134.4	15.2	30.0
Benzene		97.1	79.9	124.9	12.6	30.0
n-Butylbenzene		96.6	80.0	133.3	16.4	30.0
Bromobenzene		98.7	78.7	124.6	14.1	30.0
Bromochloromethane		100.9	78.2	120.8	11.0	30.0
Bromodichloromethane		100.8	80.4	128.2	12.5	30.0
Bromoform		102.9	69.4	128.0	17.2	30.0
Bromomethane		98.4	56.8	151.3	10.6	30.0
sec-Butylbenzene		93.0	77.4	129.8	15.9	30.0
tert-Butylbenzene		92.7	80.7	128.9	15.1	30.0
Carbon disulfide		93.7	63.8	137.4	11.7	30.0
Carbon tetrachloride		93.8	72.6	133.0	14.7	30.0
Chlorobenzene		97.6	79.2	122.7	14.4	30.0
Chloroethane		94.5	53.4	149.4	12.9	30.0
Chloroform		97.8	78.4	124.0	10.6	30.0
Chloromethane		95.7	23.8	166.5	12.3	30.0
1,1-Dichloroethane		98.2	71.5	126.2	12.0	30.0
1,1-Dichloroethene		92.9	69.6	139.4	13.2	30.0
1,2-Dibromo-3-chloropropane		105.3	21.2	189.4	17.1	30.0
1,2-Dibromoethane		102.5	70.3	133.7	15.7	30.0
1,2-Dichlorobenzene		98.8	10.0	166.2	14.0	30.0
1,2-Dichloroethane		97.7	76.0	126.3	12.8	30.0
1,2-Dichloropropane		101.5	78.6	126.4	12.3	30.0
1,3-Dichlorobenzene		98.0	77.0	131.3	13.7	30.0
1,4-Dichlorobenzene		98.5	20.7	137.7	15.0	30.0
cis-1,2-Dichloroethene		98.2	76.6	122.1	11.6	30.0
cis-1,3-Dichloropropene		106.8	79.8	129.9	13.3	30.0
Dibromochloromethane		102.2	74.6	127.2	15.3	30.0
Dibromomethane		100.0	76.9	122.1	13.6	30.0
Dichlorodifluoromethane		75.9	10.0	222.8	14.8	30.0
Diethyl ether		103.3	67.4	121.2	11.8	30.0
trans-1,2-Dichloroethene		97.5	73.6	129.3	11.2	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF210429W1 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 210429A7.2350003N, Parent Sample ID: 210429A7.2350002M

Run in Batch: 210429A7, Run Date: 04/29/2021 13:39, Prep Date: 04/29/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
trans-1,3-Dichloropropene		110.3	74.0	131.3	12.9	30.0
trans-1,4-Dichloro-2-butene		104.1	68.6	135.4	19.0	30.0
Ethylbenzene		95.3	79.5	129.1	14.6	30.0
2-Hexanone		105.2	55.4	136.9	17.3	30.0
Hexachloroethane		99.2	23.8	138.1	17.6	30.0
p-Isopropyltoluene		94.3	79.8	137.5	16.4	30.0
Isopropylbenzene		93.0	74.4	121.5	15.1	30.0
2-Methylnaphthalene		115.0	25.5	165.5	9.4	30.0
4-Methyl-2-pentanone (MIBK)		102.7	71.6	125.2	17.2	30.0
tert-Methyl butyl ether (MTBE)		101.6	73.2	122.4	11.9	30.0
Methyl iodide		97.3	68.8	116.4	11.6	30.0
Methylene chloride		95.6	73.3	121.1	10.4	30.0
Naphthalene		103.0	32.9	135.8	14.2	30.0
n-Propylbenzene		94.3	82.0	130.7	14.9	30.0
Styrene		98.2	69.5	126.7	13.8	30.0
1,1,1,2-Tetrachloroethane		97.4	80.3	128.2	14.5	30.0
1,1,1-Trichloroethane		92.8	79.4	130.9	12.3	30.0
1,1,2,2-Tetrachloroethane		101.3	79.8	126.3	16.4	30.0
1,1,2-Trichloroethane		103.6	78.7	123.1	15.1	30.0
1,2,3-Trichlorobenzene		103.9	75.4	131.4	11.7	30.0
1,2,3-Trichloropropane		99.5	78.3	138.8	18.1	30.0
1,2,3-Trimethylbenzene		96.9	76.3	124.2	15.5	30.0
1,2,4-Trichlorobenzene		102.3	27.4	143.4	12.7	30.0
1,2,4-Trimethylbenzene		95.4	81.4	130.8	13.9	30.0
1,3,5-Trimethylbenzene		94.1	81.3	128.9	14.3	30.0
Tetrachloroethene		83.7	74.5	124.5	14.7	30.0
Tetrahydrofuran		107.6	59.0	117.9	18.3	30.0
Toluene		97.6	79.8	124.5	12.8	30.0
Trichloroethene		94.4	79.7	124.2	13.7	30.0
Trichlorofluoromethane		90.2	59.7	151.8	13.8	30.0
Vinyl chloride		94.9	43.5	149.1	11.4	30.0
o-Xylene		94.1	80.2	131.0	15.2	30.0
p,m-Xylene		94.8	79.4	132.2	15.2	30.0

