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Michigan Department of Environment, Great Lakes, and Energy
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Our Ref: 30171056

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Subject: MW-14-58R Area September 2023 Investigation Summary
RACER Trust Plant 2, Lansing, Michigan

Dear Christine,

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, Arcadis has completed additional characterization near the west property boundary of Plant 2 (Site) in Lansing, Michigan. The investigation area includes Area of Interest (AOI) 2-8 and AOI 2-14, also known as RCRA Facilities Investigation (RFI) Area 4. The scope of work for this investigation was provided as the *2023 Proposed Additional MW-14-58R Area Investigation* dated August 23, 2023 and approved verbally by the Michigan Department of Environment, Great Lakes and Energy (EGLE) on September 15, 2023.

The objective of the September 2023 investigation activities was to define the extent of 1,4-dioxane north of AOI 2-8 and further characterize 1,4-dioxane and volatile organic compounds (VOCs) detected in monitoring wells near AOI 2-14. The location of AOI 2-8 and AOI 2-14 are shown on **Figure 1**.

Background

According to the Current Conditions Report (Arcadis 2008), AOI 2-8 was a former waste storage area initially identified on the Plant 2 Part A permit application in 1980; however, subsequent documents do not mention this unit. The unit was a 10X10 ft concrete paved area located northwest of Building 241, which was part of the main Plant 2 manufacturing complex. No secondary containment existed at the unit, and two drains were located near the unit that drained to the storm sewer system and ultimately to the Plant 3 Clarifier. The unit began operation sometime before 1980 and ceased in 1982.

Located approximately 150 to 200 feet south of AOI 2-8 is AOI 2-14 (**Figure 1**). This was a former scrap metal storage area that was used to store scrap produced from Plant 2 rear axle manufacturing operations. Scrap metal was stored at-grade on two paved (concrete/asphalt) areas. Wastes managed at AOI 2-14 included nonhazardous scrap metal such as machining chips, turnings, trimmings, and scrap parts. Scrap metal was accumulated in these areas in gondolas, open-topped roll off boxes, concrete enclosures, or on the pavement. A release at AOI 2-14 is known to have occurred in the past (Arcadis 2008) and oil-stained soil was excavated and disposed of off-site. Verification soil sampling was completed, but the results of the sampling are not available. There is a potential for volatile organic compounds (VOCs) impacts in this AOI related to the use of solvents during the metal fabrication process.

Monitoring well MW-14-58 was installed in AOI 2-8 in 2014 as part of the RFI activities. Monitoring well MW-14-58R was installed in October 2021 to replace MW-14-58, which was damaged during site activities. Monitoring well MW-14-58 was last sampled for 1,4-dioxane in June 2020 and at that time the 1,4-dioxane concentration was 38 micrograms per liter (µg/L). Following installation of the replacement well MW-14-58R, a sample collected in December 2021 indicated a 1,4-dioxane concentration of 430 µg/L, followed by 520 µg/L in February 2022 before decreasing to 187 µg/L in September 2022. MW-14-58R has been monitored quarterly since February 2022 with concentrations ranging from 173 to 250 µg/L. Additional vertical aquifer profile (VAP) borings and step out monitoring wells (MW-22-153, MW-22-155, MW-22-156, and MW-22-157) were installed in Area 4 to characterize 1,4-dioxane in soil and groundwater. Results were summarized in the *MW-14-58R Area Data Summary and Proposed Additional Work* report dated February 3, 2023 (Arcadis 2023). The boring logs for the additional Area 4 borings and monitoring wells, including MW-14-58 and MW-14-58R are included as part of **Attachment 1**.

The additional characterization completed in the vicinity of MW-14-58R confirmed that 1,4-dioxane in groundwater in Area 4 is not limited to the immediate vicinity of MW-14-58R. A summary of the 1,4-dioxane and VOC exceedances in groundwater are included as **Figures 2 and 3** (respectively). Soil sample results are summarized on **Figure 4**. RACER offers the following general observations:

- The soil samples collected near MW-14-58R do not indicate a source of 1,4-dioxane associated with vadose zone soil at AOI 2-8 (Arcadis 2023).
- To the west of Rosemary Avenue at monitoring well MW-22-157, the concentration of 1,4-dioxane has increased to from below Part 201 Drinking Water (DW) Criteria in 2022 to as high as 115 µg/L in October 2023.
- To the north, the apparent downgradient monitoring well MW-22-155 has shown 1,4-dioxane concentrations ranging from 410 µg/L in September 2022, dropping to 36 µg/L in February 2023 and rebounding back to 160 µg/L in October 2023.
- To the south, and apparently upgradient of AOI 2-8, the 1,4-dioxane concentrations at well MW-22-156 have continued to increase from 76 µg/L in September 2022 to 140 µg/L as of October 2023. The VOC results for MW-22-156 exceed DW Criteria for 1,1-dichloroethene (1,1-DCE) and include detections of 1,1-dichloroethane (1,1-DCA).
- Other results for VOCs at monitoring wells MW-14-58R, MW-22-153, and MW-22-155 do not show DW exceedances. Low concentrations of 1,1-DCA have been detected north of MW-22-156 at well MW-22-153.

The northerly groundwater gradient (discussed further below), lack of soil impacts observed at MW-14-58R, and depth of the groundwater impacts (exceedances typically 25-30 feet below ground surface [ft bgs]) suggest 1,4-dioxane and VOCs are migrating into the MW-14-58R area from an unknown source located to the south, potentially from AOI 2-14.

Site Geology and Hydrogeology

The geology of the Site is complex, consisting of an interbedded series of glacially-derived sediments. The geology of the Site is divided into six general hydrostratigraphic units. From shallow to deep, these units include the shallow fill, interbedded zone, glacial till (confining unit), deep overburden, weathered bedrock, and bedrock. The shallow fill and interbedded zones collectively make up the perched aquifer and are underlain by the glacial till confining unit. The shallow fill is typically 1 to 10 feet thick, consisting of sand and gravel mixtures brought to the Site as part of previous construction activities. The shallow fill can be saturated when present below 5 ft bgs

and include localized areas of unconfined perched groundwater. The interbedded zone is generally encountered between 5 and 30 ft bgs and typically composed of interbedded soft clayey glacial tills with isolated lenses of silt and sand. Sand and silt lenses are typically saturated, forming thin discontinuous zones of perched groundwater. Near AOI 2-8 and 2-14, a relatively consistent sand zone is present at depths of approximately 25 to 30 ft bgs and appears to be the primary impacted zone for 1,4-dioxane migration in this area. Based on the surrounding boring logs, the general extent of this sand seam is illustrated on **Figure 1**. The underlying glacial till depth and thickness is variable but typically encountered between 25 and 45 ft bgs. It is composed of a compact, dense silt/sand/gravel/clay mix that creates a confining unit and barrier to most vertical migration. The glacial till separates the perched water from the saturated deep overburden, weathered bedrock, and bedrock aquifer zones.

Two cross-sections are included to illustrate the local geologic conditions of the perched zone. Cross-section A-A' (**Figure 5**) illustrates the geology on a west to east transect extending from off-site to on-site through Area 4. Cross-section B-B' (**Figure 6**) is a southwest to northeast transect along the western Plant 2 property boundary. Both cross-sections show the interbedded sand and clays of the perched zone and a generally consistent sand seam at depths between 25 and 30 ft bgs, coincident with the screened interval of MW-14-58R.

There is a large 60-inch sanitary main that runs north-south along the east side of Rosemary Avenue. The sanitary main is installed above the sand zone at a depth of approximately 10-20 ft below grade and sanitary wastewater flows by gravity within the main to the north. The potentiometric surface of perched groundwater on-site is approximately 10 to 13 ft bgs and 2 to 3 ft bgs west of Rosemary Avenue at MW-22-157. Groundwater elevations are summarized on **Table 1** and groundwater elevation contour maps are included as **Figure 7**. The groundwater gradient is to the north parallel to the sanitary main. The perched groundwater elevation and apparent flow direction may be influenced by the sanitary main if the fill material placed around the main creates a preferential pathway for groundwater migration.

Scope of Work – Fall 2023

Based on these results of the previous investigations outlined above, additional characterization of 1,4-dioxane and VOC impacts was completed in September 2023. The scope of work included:

- To the south of AOI 2-8, within AOI 2-14, three VAP borings were completed to max depth of 25 to 35 ft bgs. At each boring up to four soil samples were collected for 1,4-dioxane and VOCs at 2-foot intervals beginning below the concrete slab. In addition, two groundwater samples were collected at each boring from intervals consistent with first groundwater and the sand interval at 25-35 ft bgs, if encountered.
- To the north of AOI 2-8, three direct push soil borings were completed to max depth of 35 feet below grade to confirm the target sand unit (i.e., 25 to 35 ft bgs) for groundwater sampling.
- Soil and groundwater samples were submitted to Merit Laboratories in Lansing, Michigan for analysis of 1,4-dioxane by USEPA Method 8260B SIM and VOCs by USEPA SW-846 Method SW5035A/8260C.

The location of the soil borings and monitoring wells are shown in **Figure 1** and soil boring logs are included as **Attachment 1**. Analytical results are summarized on **Figure 2** through **Figure 4** and on **Tables 2** and **3**.

AOI 2-14

In September 2023, three VAP borings (VAP-P2-NL58, VAP-P2-NP59, and VAP-P2-NT58) were completed using direct-push (DPT) drilling methods in the AOI 2-14 area. Four soil samples were collected from the unsaturated zone at each boring (**Figure 4**), and groundwater samples at each boring were collected from sand seams generally encountered at 10-15 feet bgs and 18 -25 ft bgs.

All soil samples from the three borings were non-detect for 1,4-dioxane and VOCs (**Figure 4**). In groundwater, 1,4-dioxane and 1,1-DCE were detected in the northernmost VAP boring (VAP-P2-NL58) at concentrations greater than the DW Criteria at a depth of 21 to 24.5 ft bgs (**Figures 2 and 3**). 1,1-DCA was also detected in groundwater at VAP-P2-NL58. The remaining VAP samples collected within AOI 2-14 indicated only low-level detections of 1,4-dioxane, 1,1,1-trichloroethane (1,1,1-TCA), 1,1-DCA, 1,1-DCE and chloromethane. The results of the VAP sampling show delineation of 1,4-dioxane to the south; however, the results suggest a potential source of 1,4-dioxane and VOCs may be present upgradient of VAP-P2-NL58. The suite of VOCs detected in groundwater is consistent with a release of chlorinated solvents that may have included 1,4-dioxane. The overall conceptual site model for the RACER Lansing sites suggests that 1,4-dioxane was used as a stabilizer in the solvent 1,1,1-TCA. Although 1,1,1-TCA readily degrades, the 1,4-dioxane is recalcitrant and will persist long after the other solvents have attenuated.

Monitoring Well Installation

In September 2023, three soil borings were completed downgradient to the north of AOI 2-8 to assess potential migration of 1,4-dioxane. Once the target interval was identified, three additional perched monitoring wells (MW-23-161, MW-23-162, and MW-23-163) were installed using a hollow stem auger. The monitoring wells were installed to a maximum depth of 34 feet below grade and constructed with a 5-foot stainless-steel, 0.010-slot screen with 2-inch diameter SCH-40 PVC riser. An appropriate sand pack was placed around each screen interval to a depth of 2 feet above the well screen followed by a bentonite grout to grade. The wells were completed with a steel 8-inch diameter locking flush-mount cover and locking cap. Soil boring log and well construction details can be found in **Attachment 1**. The new monitoring wells were developed using surge-and-purge methods until reasonably free of fine-grained material.

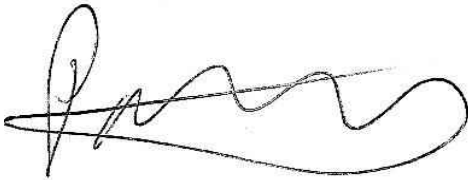
The three new wells, in addition to the five existing monitoring wells surrounding AOI 2-8, were sampled during the quarterly groundwater sampling event in October 2023 using low-flow sampling methods. A summary of all groundwater analytical data is included in **Table 2** and summarized on **Figures 2 and 3**. The results of the sampling show that although 1,4-dioxane concentrations decrease to the north, the concentrations remain above DW Criteria. VOCs were not detected within the new wells and VOC impacts in groundwater appear to be limited to the northern part of AOI 2-14 and monitoring well MW-22-153 located at the Site boundary due west of MW-14-58R. VOCs were not detected off-site at MW-22-157. Groundwater analytical laboratory reports are included in **Attachment 2** and groundwater sampling field records are included in **Attachment 3**.

Ms. Christine Matlock
EGLE
January 19, 2024

Discussion

RACER understands there are data gaps remaining at the Plant 2 western boundary regarding 1,4-dioxane and VOCs in perched groundwater. Based on recent discussion with the US Environmental Protection Agency (EPA), EPA will be conducting additional sampling at the former Adams Plating Facility (APC), located northwest of Area 4, in Spring 2024. Additional sampling at APC will include additional soil borings within the APC source area, and sampling of the existing APC monitoring wells, including wells west of Area 4 (**Figure 1**). Three of the new monitoring wells, as well as other Area 4 wells installed as part of the MW-14-58R evaluation, will be sampled concurrent with EPA sampling activities. Additional characterization at Area 4 will be considered upon review of the concurrent sampling results. If you should have any questions regarding the enclosed data, please do not hesitate to contact Brendan Mullen at bmullen@racertrust.org or at (201) 247-4890 or Patrick Curry at patrick.curry@arcadis.com or at (810) 225-1926.

Sincerely,
Arcadis of Michigan, LLC

A handwritten signature in black ink, appearing to read 'Patrick Curry', with a stylized, flowing script.

Patrick Curry, PG
Technical Expert / Vice President

Email: patrick.curry@arcadis.com
Direct Line: (810) 225-1926

CC. Brendan Mullen, RACER Trust
Dave Favero, RACER Trust
Joe Rogers, EGLE
Shaun Shields, EGLE

Ms. Christine Matlock
EGLE
January 19, 2024

Enclosures:

Tables

Table 1	Summary of Groundwater Elevations
Table 2	Summary of Groundwater Analytical Results
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Figures

Figure 1	Area of Interest Map
Figure 2	Summary of 1,4-Dioxane Groundwater Analytical Results
Figure 3	Summary of VOC Groundwater Analytical Results
Figure 4	Summary of Soil Analytical Results
Figure 5	Cross-Section A-A'
Figure 6	Cross-Section B-B'
Figure 7	Groundwater Elevation Contour Map

Attachments

Attachment 1	Soil Boring Logs
Attachment 2	Analytical Reports
Attachment 3	Groundwater Sampling Logs

References:

- Arcadis. 2008. Current Conditions Report (CCR) for GM Lansing Plants 2, 3 and 6. Lansing, Michigan. August 1.
- Arcadis. 2013. Resource Conservation and Recovery Act Facility Investigation (RFI) Phase 2 Activities Summary Report. RACER Trust, Lansing, Michigan, Plants 2, 3, and 6, Industrial Land. April 4.
- Arcadis. 2021. Lower 1,4-Dioxane Conceptual Site Model. Lansing Industrial Land, Lansing, Michigan. January 6.
- Arcadis. 2022. Revised Interim Groundwater Monitoring Work Plan - 2022. RACER Trust, Plants 2, 3, &6, Lansing, Michigan. December 8.
- Arcadis. 2023. MW-14-58R Area Data Summary and Proposed Additional Work, RACER Trust Plant 2, Lansing, Michigan. February 3.

Tables

Table 1 - Summary of Groundwater Elevations
2023 MW-14-58R Investigation Report
RACER Trust Plant 2 - Lansing, Michigan



Well ID	Date Collected	Screened Interval Top (feet bgs)	Screened Interval Bottom (feet bgs)	Reference Elevation (TOC)	Ground Surface Elevation (feet msl)	Total Well Depth (feet below TOC)	Depth to Water (feet below TOC)	Groundwater Elevation (feet msl)
MW-14-58R	5/31/2022	22.0	27.0	862.93	860.09	29.63	9.75	853.18
MW-14-58R	9/12/2022	22.0	27.0	862.93	860.09	29.60	13.30	849.63
MW-14-58R	10/14/2022	22.0	27.0	862.93	860.09	29.61	13.63	849.30
MW-14-58R	5/15/2023	22.0	27.0	862.93	860.09	29.61	12.93	850.00
MW-14-58R	10/23/2023	22.0	27.0	862.93	860.09	29.58	12.76	850.17
MW-22-153	5/31/2022	25.0	30.0	860.43	859.44	31.15	10.25	850.18
MW-22-153	9/12/2022	25.0	30.0	860.43	859.44	31.17	10.80	849.63
MW-22-153	10/14/2022	25.0	30.0	860.43	859.44	31.18	11.12	849.31
MW-22-153	5/15/2023	25.0	30.0	860.43	859.44	31.18	10.41	850.02
MW-22-153	10/23/2023	25.0	30.0	860.43	859.44	31.18	10.25	850.18
MW-22-155	9/12/2022	25.5	30.5	861.58	858.99	31.50	12.08	849.50
MW-22-155	10/14/2022	25.5	30.5	861.58	858.99	31.43	12.41	849.17
MW-22-155	5/15/2023	25.5	30.5	861.58	858.99	31.50	11.69	849.89
MW-22-155	10/23/2023	25.5	30.5	861.58	858.99	31.49	11.54	850.04
MW-22-156	9/12/2022	23.0	28.0	863.07	860.13	31.06	13.29	849.78
MW-22-156	10/14/2022	23.0	28.0	863.07	860.13	31.06	13.57	849.50
MW-22-156	5/15/2023	23.0	28.0	863.07	860.13	31.06	12.90	850.17
MW-22-156	10/23/2023	23.0	28.0	863.07	860.13	31.04	12.69	850.38
MW-22-157	9/12/2022	24.0	29.0	852.38	853.06	27.55	2.75	849.63
MW-22-157	10/14/2022	24.0	29.0	852.38	853.06	27.61	3.08	849.30
MW-22-157	5/15/2023	24.0	29.0	852.38	853.06	27.63	2.38	850.00
MW-22-157	10/23/2023	24.0	29.0	852.38	853.06	27.61	2.28	850.10
MW-23-161	10/23/2023	20.0	25.0	858.48	856.00	27.58	10.57	847.91
MW-23-162	10/23/2023	29.0	34.0	861.95	859.41	36.58	14.20	847.75
MW-23-163	10/23/2023	20.0	25.0	862.61	860.31	27.21	13.54	849.07

Notes:

bgs = below ground surface

msl = mean sea level

NM = not measured

NS = not surveyed

RACER = Revitalizing Auto Communities Environmental Response

TOC = top of casing

Table 2 - Summary of Groundwater Analytical Results
2023 MW-14-58R Investigation Report
RACER Trust Plant 2 - Lansing, Michigan



Location ID: Date Collected: Sample Name: Sample Depth (ft. bgs):	P201 Residential Drinking Water	P201 Groundwater Surface Water Interface	Units	MW-14-58R 12/01/21 MW-14-58R_120121 22-27	MW-14-58R 02/10/22 MW-14-58R_021022 22-27	MW-14-58R 04/06/22 MW-14-58R_040622 22-27	MW-14-58R 09/12/22 MW-14-58R_091222 22-27	MW-14-58R 10/14/22 MW-14-58R_101422 22-27	MW-14-58R 02/15/23 MW-14-58R_021523 22-27	MW-14-58R 05/16/23 MW-14-58R_051623 22-27	MW-14-58R 08/29/23 MW-14-58R_082923 22-27	MW-14-58R 10/24/23 MW-14-58R_102423 22-27	MW-22-153 04/06/22 MW-22-153_040622 25-30	MW-22-153 09/12/22 MW-22-153_091222 25-30	MW-22-153 10/14/22 MW-22-153_101422 25-30	MW-22-153 02/15/23 MW-22-153_021523 25-30	MW-22-153 05/17/23 MW-22-153_051723 25-30
Field																	
pH	6.5 to 8.5	6.5 to 9.0	s.u.	7.11	7.04	6.99	6.93	7.07	7.01	6.98	6.92	6.92	7.08	6.97	7.13	6.98	7.09
Conductivity	--	--	µS/cm	2.02	1.46	1.98	2.65	2.29	2.85	3.09	2.76	2.55	1.56	1.67	1.49	2.26	2.25
Turbidity	--	--	NTU	0.02	1.77	1.22	1.60	11.94	4.93	1.27	8.71	9.94	1.21	1.43	11.01	1.09	0.02
Dissolved oxygen (DO)	--	--	mg/L	0.53	0.19	0.69	0.21	0.06	0.07	0.16	0.14	0.00	1.22	0.05	0.12	0.12	0.06
Temperature	--	--	Deg C	13.7	7.1	9.8	16.6	15.2	12.9	14.2	17.9	16.8	12.1	15.1	14.3	12.9	12.7
Oxidation reduction potential (ORP)	--	--	millivolts	-138.5	-55.8	-37.1	-72.7	-77.3	-175.1	92.5	-57.0	-75.7	-48.9	-76.1	-66.3	-181.6	109.7
Volatile Organics (via EPA Method 537 Modified or EPA Method SW5030C/8260C)																	
1,1-Dichloroethane	880	740	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	2	NA	NA	54	52
1,1-Dichloroethene	7.0	130	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,1,1-Trichloroethane	200	89	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,1,1,2-Tetrachloroethane	77	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,1,2-Trichloroethane	5.0	330	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,2-Dichlorobenzene	600	13	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,2-Dichloroethane	5.0	360	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,2-Dichloropropane	5.0	230	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,2,3-Trichlorobenzene	--	--	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
1,2,3-Trichloropropane	42	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,2,3-Trimethylbenzene	--	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,2,4-Trichlorobenzene	70	99	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
1,2,4-Trimethylbenzene	63	17	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,3-Dichlorobenzene	6.6	28	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,3,5-Trimethylbenzene	72	45	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,4-Dichlorobenzene	75	17	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
1,4-Dioxane	7.2	280	µg/L	430 Y [410 Y]	520	410 Y	187	173 [173]	178 [181]	173	250	194	92	55	52	26	61
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	NA	< 25	NA	NA	< 25 [< 25]	< 25	< 25	< 25	< 25	NA	NA	< 25	< 25
2-Hexanone	1,000	--	µg/L	NA	NA	< 50	NA	NA	< 50 [< 50]	< 50	< 50	< 50	< 50	NA	NA	< 50	< 50
2-Methylnaphthalene	260	19	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
2-Phenylbutane (sec-Butylbenzene)	80	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	NA	< 50	NA	NA	< 50 [< 50]	< 50	< 50	< 50	< 50	NA	NA	< 50	< 50
Acetone	730	1,700	µg/L	NA	NA	< 50	NA	NA	< 50 [< 50]	< 50	< 50	< 50	< 50	NA	NA	< 50	< 50
Acrylonitrile	2.6	2	µg/L	NA	NA	< 2	NA	NA	< 2 [< 2]	< 2	< 2	< 2	< 2	NA	NA	< 2	< 2
Benzene	5.0	200	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Bromobenzene	18	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Bromodichloromethane	80	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Bromoform	80	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Bromomethane (Methyl bromide)	10	5.0	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
Carbon disulfide	800	--	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
Carbon tetrachloride	5.0	38	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Chlorobenzene	100	25	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Chlorobromomethane (Bromochloromethane)	--	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Chloroethane	430	1,100	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	10	NA	NA	< 5	< 5
Chloroform (Trichloromethane)	80	350	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Chloromethane (Methyl chloride)	260	--	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
cis-1,2-Dichloroethene	70	620	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
cis-1,3-Dichloropropene	--	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Cymene (p-Isopropyltoluene)	--	--	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
Dibromochloromethane	80	--	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
Dibromomethane	80	--	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
Ethyl ether	10	--	µg/L	NA	NA	< 10	NA	NA	< 10 [< 10]	< 10	< 10	< 10	< 10	NA	NA	< 10	< 10
Ethylbenzene	74	18	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Hexachloroethane	7.3	6.7	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
Iodomethane (Methyl Iodide)	--	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Isopropyl benzene	800	28	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
Methylene chloride	5.0	1,500	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
Naphthalene	520	11	µg/L	NA	NA	< 5	NA	NA	< 5 [< 5]	< 5	< 5	< 5	< 5	NA	NA	< 5	< 5
N-Butylbenzene	80	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
N-Propylbenzene	80	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Styrene	100	80	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
tert-Butylbenzene	80	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Tetrachloroethene	5.0	60	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Tetrahydrofuran	95	11,000	µg/L	NA	NA	< 90	NA	NA	< 90 [< 90]	< 90	< 90	< 90	< 90	NA	NA	< 90	< 90
Toluene	790	270	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
trans-1,3-Dichloropropene	--	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
trans-1,4-Dichloro-2-butene	--	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Trichloroethene	5.0	200	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	< 1	NA	NA	< 1	< 1
Vinyl chloride	2.0	13	µg/L	NA	NA	< 1	NA	NA	< 1 [< 1]	< 1	< 1	< 1	1	NA	NA	< 1	< 1
m&p-Xylene	--	--	µg/L	NA	NA	< 2	NA	NA	< 2 [< 2]	< 2	< 2	< 2	< 2	NA	NA	< 2	< 2
o-Xylene	--	--	µg/L	NA	NA	<											

Table 2 - Summary of Groundwater Analytical Results
2023 MW-14-58R Investigation Report
RACER Trust Plant 2 - Lansing, Michigan



Location ID: Date Collected: Sample Name: Sample Depth (ft. bgs):	P201 Residential Drinking Water	P201 Groundwater Surface Water Interface	Units	MW-22-153 08/29/23 MW-22-153_082923 25-30	MW-22-153 10/24/23 102423 25-30	MW-22-155 09/12/22 091222 25.5-30.5	MW-22-155 10/14/22 101422 25.5-30.5	MW-22-155 02/15/23 021523 25.5-30.5	MW-22-155 05/17/23 051723 25.5-30.5	MW-22-155 08/29/23 082923 25.5-30.5	MW-22-155 10/24/23 102423 25.5-30.5	MW-22-156 09/12/22 091222 23-28	MW-22-156 10/14/22 101422 23-28	MW-22-156 02/15/23 021523 23-28	MW-22-156 05/17/23 051723 23-28	MW-22-156 08/29/23 082923 23-28
Field																
pH	6.5 to 8.5	6.5 to 9.0	s.u.	7.03	7.02	7.03	7.17	6.99	7.91	6.91	7.03	6.94	7.18	7.02	7.19	7.14
Conductivity	--	--	µS/cm	1.25	1.56	1.70	1.49	2.02	0.00	1.88	2.41	1.41	1.32	1.97	2.08	1.15
Turbidity	--	--	NTU	12.60	36.00	3.78	16.85	5.79	39.80	107.00	64.94	3.21	12.03	1.12	1.13	10.20
Dissolved oxygen (DO)	--	--	mg/L	0.19	0.00	0.05	0.06	0.86	7.90	2.00	0.11	3.17	0.11	0.57	0.24	0.07
Temperature	--	--	Deg C	17.6	15.2	13.9	13.6	12.0	20.1	19.0	15.3	14.8	15.1	13.1	12.7	17.4
Oxidation reduction potential (ORP)	--	--	millivolts	-55.1	-58.7	-106.9	-85.0	-182.6	-64.0	-53.8	-117.3	-69.8	-69.2	-170.5	123.6	-57.9
Volatile Organics (via EPA Method 537 Modified or EPA Method SW5030C/8260C)																
1,1-Dichloroethane	880	740	µg/L	< 1	37	NA	NA	< 1	< 1	NA	< 1	NA	NA	390	320	300
1,1-Dichloroethene	7.0	130	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	20	30	20
1,1,1-Trichloroethane	200	89	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,1,1,2-Tetrachloroethane	77	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,1,2-Trichloroethane	5.0	330	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,2-Dichlorobenzene	600	13	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,2-Dichloroethane	5.0	360	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,2-Dichloropropane	5.0	230	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,2,3-Trichlorobenzene	--	--	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
1,2,3-Trichloropropane	42	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,2,3-Trimethylbenzene	--	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,2,4-Trichlorobenzene	70	99	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
1,2,4-Trimethylbenzene	63	17	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,3-Dichlorobenzene	6.6	28	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,3,5-Trimethylbenzene	72	45	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,4-Dichlorobenzene	75	17	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
1,4-Dioxane	7.2	280	µg/L	18	101	410 Y	400 Y	36	270	160	176	76	81	47	101	144
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	< 25	< 25	NA	NA	< 25	< 25	NA	< 25	NA	NA	< 250	< 250	< 25
2-Hexanone	1,000	--	µg/L	< 50	< 50	NA	NA	< 50	< 50	NA	< 50	NA	NA	< 500	< 500	< 50
2-Methylnaphthalene	260	19	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
2-Phenylbutane (sec-Butylbenzene)	80	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	< 50	< 50	NA	NA	< 50	< 50	NA	< 50	NA	NA	< 500	< 500	< 50
Acetone	730	1,700	µg/L	< 50	< 50	NA	NA	< 50	< 50	NA	< 50	NA	NA	< 500	< 500	< 50
Acrylonitrile	2.6	2	µg/L	< 2	< 2	NA	NA	< 2	< 2	NA	< 2	NA	NA	< 50	< 20	< 2
Benzene	5.0	200	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Bromobenzene	18	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Bromodichloromethane	80	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Bromoform	80	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Bromomethane (Methyl bromide)	10	5.0	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
Carbon disulfide	800	--	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
Carbon tetrachloride	5.0	38	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Chlorobenzene	100	25	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Chlorobromomethane (Bromochloromethane)	--	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Chloroethane	430	1,100	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
Chloroform (Trichloromethane)	80	350	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Chloromethane (Methyl chloride)	260	--	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
cis-1,2-Dichloroethene	70	620	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
cis-1,3-Dichloropropene	--	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Cymene (p-Isopropyltoluene)	--	--	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
Dibromochloromethane	80	--	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
Dibromomethane	80	--	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
Ethyl ether	10	--	µg/L	< 10	< 10	NA	NA	< 10	< 10	NA	< 10	NA	NA	< 100	< 100	< 10
Ethylbenzene	74	18	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Hexachloroethane	7.3	6.7	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
Iodomethane (Methyl iodide)	--	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Isopropyl benzene	800	28	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
Methylene chloride	5.0	1,500	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
Naphthalene	520	11	µg/L	< 5	< 5	NA	NA	< 5	< 5	NA	< 5	NA	NA	< 50	< 50	< 5
N-Butylbenzene	80	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
N-Propylbenzene	80	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Styrene	100	80	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
tert-Butylbenzene	80	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Tetrachloroethene	5.0	60	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Tetrahydrofuran	95	11,000	µg/L	< 90	< 90	NA	NA	< 90	< 90	NA	< 90	NA	NA	< 900	< 900	< 90
Toluene	790	270	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
trans-1,2-Dichloroethene	100	1,500	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
trans-1,3-Dichloropropene	--	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
trans-1,4-Dichloro-2-butene	--	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Trichloroethene	5.0	200	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Vinyl chloride	2.0	13	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
m&p-Xylene	--	--	µg/L	< 2	< 2	NA	NA	< 2	< 2	NA	< 2	NA	NA	< 20	< 20	< 2
o-Xylene	--	--	µg/L	< 1	< 1	NA	NA	< 1	< 1	NA	< 1	NA	NA	< 10	< 10	< 1
Xylenes (total)	280	49	µg/L	< 2	< 2	NA	NA	< 2	< 2	NA	< 2	NA	NA	< 20	< 20	< 2

See notes on last page.

Table 2 - Summary of Groundwater Analytical Results
2023 MW-14-58R Investigation Report
RACER Trust Plant 2 - Lansing, Michigan



Location ID: Date Collected: Sample Name: Sample Depth (ft. bgs):	P201 Residential Drinking Water	P201 Groundwater Surface Water Interface		MW-22-156 10/24/23 MW-22-156_102423 23-28	MW-22-157 09/12/22 MW-22-157_091222 24-29	MW-22-157 10/14/22 MW-22-157_101422 24-29	MW-22-157 02/15/23 MW-22-157_021523 24-29	MW-22-157 05/17/23 MW-22-157_051723 24-29	MW-22-157 08/29/23 MW-22-157_082923 24-29	MW-22-157 10/24/23 MW-22-157_102423 24-29	MW-23-161 10/24/23 MW-23-161_102423 20-25	MW-23-162 10/24/23 MW-23-162_102423 29-34	MW-23-163 10/24/23 MW-23-163_102423 20-25	SB-A4-NB60 03/22/22 SB-A4-NB60_22-26 22-26	SB-A4-NB60 03/22/22 SB-A4-NB60_30-34 30-34	SB-A4-MV60 03/23/22 SB-A4-MV60_21-25 21-25	SB-A4-MV60 03/23/22 SB-A4-MV60_29.5-33.5 29.5-33.5
Field																	
pH	6.5 to 8.5	6.5 to 9.0	s.u.	7.10	7.01	7.14	7.01	7.00	6.90	6.95	7.13	6.89	7.23	NR	NR	NR	NR
Conductivity	--	--	µS/cm	1.70	1.46	1.36	1.99	1.48	1.44	16.20	1.78	3.10	1.23	NR	NR	NR	NR
Turbidity	--	--	NTU	261.00	1.51	20.01	1.61	0.58	15.10	108.00	22.19	19.08	53.91	NR	NR	NR	NR
Dissolved oxygen (DO)	--	--	mg/L	0.00	0.23	0.09	0.11	0.23	0.10	0.00	0.19	0.57	0.11	NR	NR	NR	NR
Temperature	--	--	Deg C	18.2	16.6	15.4	13.0	14.1	18.4	16.2	14.1	14.0	14.2	NR	NR	NR	NR
Oxidation reduction potential (ORP)	--	--	millivolts	-88.3	-95.2	-87.8	-157.7	-59.6	-34.3	-63.1	-75.3	-4.4	-102.4	NR	NR	NR	NR
Volatile Organics (via EPA Method 537 Modified or EPA Method SW5030C/8260C)																	
1,1-Dichloroethane	880	740	µg/L	280	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,1-Dichloroethene	7.0	130	µg/L	20	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,1,1-Trichloroethane	200	89	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,1,1,2-Tetrachloroethane	77	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,1,2-Trichloroethane	5.0	330	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,2-Dichlorobenzene	600	13	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,2-Dichloroethane	5.0	360	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,2-Dichloropropane	5.0	230	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,2,3-Trichlorobenzene	--	--	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
1,2,3-Trichloropropane	42	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,2,3-Trimethylbenzene	--	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,2,4-Trichlorobenzene	70	99	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
1,2,4-Trimethylbenzene	63	17	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,3-Dichlorobenzene	6.6	28	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,3,5-Trimethylbenzene	72	45	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,4-Dichlorobenzene	75	17	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
1,4-Dioxane	7.2	280	µg/L	140	3	3.0	5	44	123 [117]	115	54 [56]	28	12	18	191	13	32 Y [31 Y]
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	< 25	NA	NA	NA	NA	< 25 [< 25]	< 25	< 25 [< 25]	< 25	< 25	NA	NA	NA	NA
2-Hexanone	1,000	--	µg/L	< 50	NA	NA	NA	NA	< 50 [< 50]	< 50	< 50 [< 50]	< 50	< 50	NA	NA	NA	NA
2-Methylnaphthalene	260	19	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
2-Phenylbutane (sec-Butylbenzene)	80	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	< 50	NA	NA	NA	NA	< 50 [< 50]	< 50	< 50 [< 50]	< 50	< 50	NA	NA	NA	NA
Acetone	730	1,700	µg/L	< 50	NA	NA	NA	NA	< 50 [< 50]	< 50	< 50 [< 50]	< 50	< 50	NA	NA	NA	NA
Acrylonitrile	2.6	2	µg/L	< 2	NA	NA	NA	NA	< 2 [< 2]	< 2	< 2 [< 2]	< 2	< 2	NA	NA	NA	NA
Benzene	5.0	200	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Bromobenzene	18	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Bromodichloromethane	80	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Bromoform	80	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Bromomethane (Methyl bromide)	10	5.0	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
Carbon disulfide	800	--	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
Carbon tetrachloride	5.0	38	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Chlorobenzene	100	25	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Chlorobromomethane (Bromochloromethane)	--	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Chloroethane	430	1,100	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
Chloroform (Trichloromethane)	80	350	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Chloromethane (Methyl chloride)	260	--	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
cis-1,2-Dichloroethene	70	620	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
cis-1,3-Dichloropropene	--	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Cymene (p-Isopropyltoluene)	--	--	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
Dibromochloromethane	80	--	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
Dibromomethane	80	--	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
Ethyl ether	10	--	µg/L	< 10	NA	NA	NA	NA	< 10 [< 10]	< 10	< 10 [< 10]	< 10	< 10	NA	NA	NA	NA
Ethylbenzene	74	18	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Hexachloroethane	7.3	6.7	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
Iodomethane (Methyl Iodide)	--	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Isopropyl benzene	800	28	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
Methylene chloride	5.0	1,500	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
Naphthalene	520	11	µg/L	< 5	NA	NA	NA	NA	< 5 [< 5]	< 5	< 5 [< 5]	< 5	< 5	NA	NA	NA	NA
N-Butylbenzene	80	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
N-Propylbenzene	80	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Styrene	100	80	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
tert-Butylbenzene	80	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Tetrachloroethene	5.0	60	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Tetrahydrofuran	95	11,000	µg/L	< 90	NA	NA	NA	NA	< 90 [< 90]	< 90	< 90 [< 90]	< 90	< 90	NA	NA	NA	NA
Toluene	790	270	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
trans-1,2-Dichloroethene	100	1,500	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
trans-1,3-Dichloropropene	--	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	--	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Trichloroethene	5.0	200	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Vinyl chloride	2.0	13	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
m&p-Xylene	--	--	µg/L	< 2	NA	NA	NA	NA	< 2 [< 2]	< 2	< 2 [< 2]	< 2	< 2	NA	NA	NA	NA
o-Xylene	--	--	µg/L	< 1	NA	NA	NA	NA	< 1 [< 1]	< 1	< 1 [< 1]	< 1	< 1	NA	NA	NA	NA
Xylenes (total)	280	49	µg/L	< 2	NA	NA	NA	NA	< 2 [< 2]	< 2	< 2 [< 2						

Table 2 - Summary of Groundwater Analytical Results
2023 MW-14-58R Investigation Report
RACER Trust Plant 2 - Lansing, Michigan



Location ID: Date Collected: Sample Name: Sample Depth (ft. bgs):	P201 Residential Drinking Water	P201 Groundwater Surface Water Interface		SB-A4-MY55 03/23/22 SB-A4-MY55 15-19	SB-A4-MY55 03/23/22 SB-A4-MY55 25.5-29.5	SB-A4-MY63 03/22/22 SB-A4-MY63 18-22	SB-A4-MY63 03/22/22 SB-A4-MY63 26-30	VAP-P2-NL58 09/26/23 VAP-P2-NL58 10-15	VAP-P2-NL58 09/26/23 VAP-P2-NL58 21-24.5	VAP-P2-NP59 09/26/23 VAP-P2-NP59 10-15	VAP-P2-NP59 09/27/23 VAP-P2-NP59 20-23.5	VAP-P2-NT58 09/27/23 VAP-P2-NT58 10-15	VAP-P2-NT58 09/27/23 VAP-P2-NT58 18-21.5
			Units										
Field													
pH	6.5 to 8.5	6.5 to 9.0	s.u.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Conductivity	--	--	µS/cm	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Turbidity	--	--	NTU	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dissolved oxygen (DO)	--	--	mg/L	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Temperature	--	--	Deg C	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Oxidation reduction potential (ORP)	--	--	millivolts	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Volatile Organics (via EPA Method 537 Modified or EPA Method SW5030C/8260C)													
1,1-Dichloroethane	880	740	µg/L	NA	NA	NA	NA	< 1	230 [250]	9	78	4	19
1,1-Dichloroethene	7.0	130	µg/L	NA	NA	NA	NA	< 1	10 [20]	< 1	< 1	< 1	< 1
1,1,1-Trichloroethane	200	89	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	1	< 1	< 1	< 1
1,1,1,2-Tetrachloroethane	77	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5.0	330	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene	600	13	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,2-Dichloroethane	5.0	360	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,2-Dichloropropane	5.0	230	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,2,3-Trichlorobenzene	--	--	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	42	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,2,3-Trimethylbenzene	--	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,2,4-Trichlorobenzene	70	99	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	63	17	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,3-Dichlorobenzene	6.6	28	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	72	45	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,4-Dichlorobenzene	75	17	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
1,4-Dioxane	7.2	280	µg/L	< 1	128	51	100	< 1	53 [55]	2	5	2	2
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	NA	NA	NA	< 25	< 250 [< 250]	< 25	< 25	< 25	< 25
2-Hexanone	1,000	--	µg/L	NA	NA	NA	NA	< 50	< 500 [< 500]	< 50	< 50	< 50	< 50
2-Methylnaphthalene	260	19	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
2-Phenylbutane (sec-Butylbenzene)	80	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	NA	NA	NA	< 50	< 500 [< 500]	< 50	< 50	< 50	< 50
Acetone	730	1,700	µg/L	NA	NA	NA	NA	< 50	< 500 [< 500]	< 50	< 50	< 50	< 50
Acrylonitrile	2.6	2	µg/L	NA	NA	NA	NA	< 2	< 20 [< 20]	< 2	< 2	< 2	< 2
Benzene	5.0	200	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Bromobenzene	18	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Bromodichloromethane	80	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Bromoform	80	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Bromomethane (Methyl bromide)	10	5.0	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
Carbon disulfide	800	--	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
Carbon tetrachloride	5.0	38	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Chlorobenzene	100	25	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Chlorobromomethane (Bromochloromethane)	--	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Chloroethane	430	1,100	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
Chloroform (Trichloromethane)	80	350	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Chloromethane (Methyl chloride)	260	--	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	70	620	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	1	2	1	< 1
cis-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Cymene (p-Isopropyltoluene)	--	--	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
Dibromochloromethane	80	--	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
Dibromomethane	80	--	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
Ethyl ether	10	--	µg/L	NA	NA	NA	NA	< 10	< 100 [< 100]	< 10	< 10	< 10	< 10
Ethylbenzene	74	18	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Hexachloroethane	7.3	6.7	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
Iodomethane (Methyl iodide)	--	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Isopropyl benzene	800	28	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
Methylene chloride	5.0	1,500	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
Naphthalene	520	11	µg/L	NA	NA	NA	NA	< 5	< 50 [< 50]	< 5	< 5	< 5	< 5
N-Butylbenzene	80	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
N-Propylbenzene	80	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Styrene	100	80	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
tert-Butylbenzene	80	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Tetrachloroethene	5.0	60	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Tetrahydrofuran	95	11,000	µg/L	NA	NA	NA	NA	< 90	< 900 [< 900]	< 90	< 90	< 90	< 90
Toluene	790	270	µg/L	NA	NA	NA	NA	2	< 10 [< 10]	< 1	< 1	< 1	< 1
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
trans-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
trans-1,4-Dichloro-2-butene	--	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Trichloroethene	5.0	200	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Vinyl chloride	2.0	13	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
m&p-Xylene	--	--	µg/L	NA	NA	NA	NA	< 2	< 20 [< 20]	< 2	< 2	< 2	< 2
o-Xylene	--	--	µg/L	NA	NA	NA	NA	< 1	< 10 [< 10]	< 1	< 1	< 1	< 1
Xylenes (total)	280	49	µg/L	NA	NA	NA	NA	< 2	< 20 [< 20]	< 2	< 2	< 2	< 2

See notes on last page.

Table 2
Summary of Groundwater Analytical Results
2019 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan



Data Flagging:

Bold font represents data where detections were noted above the laboratory method detection limit.

Gray shading represents result exceeding either or both the EGLE Part 201 Generic Cleanup Criteria and Screening Levels (dated January 10, 2018) or the EGLE GSI Criteria (Updated June 25, 2018)

Notes:

Deg C = degrees Celsius

EGLE = Michigan Department of Environment, Great Lakes, and Energy

mg/L = milligrams per liter

NA = Not Analyzed

NR = Not Recorded

NTU = Nephelometric Turbidity Unit

s.u. = standard unit

ug/L = micrograms per liter

μS/cm = microSiemens per centimeter

[] = brackets indicate a duplicate sample result, listed next to the parent result

Lab and Validation Data Qualifiers:

F1 = Matrix spike and/or matrix spike duplicate recovery is outside acceptance limits.

J = The compound was positively identified, however, the associated numerical value is an estimated concentration only.

Y = Elevated reporting limit due to high target concentration.

Table 3
Summary of Soil Analytical Results
2023 MW-14-58R Investigation Report
RACER Trust Plant 2 - Lansing, Michigan



Location ID: Date Collected: Sample Name: Sample Depth (ft. bgs):	Residential Drinking Water Protection (DWP) Criteria	Groundwater Surface Water Interface Protection (GSIIP) Criteria	Units	SB-A4-MX60 09/07/22 SB-A4-MX60_1-3	SB-A4-MX60 09/07/22 SB-A4-MX60_4-6	SB-A4-MX60 09/07/22 SB-A4-MX60_6-8	SB-A4-MX60 09/07/22 SB-A4-MX60_8.5-10	SB-A4-MX60 09/07/22 SB-A4-MX60_10-12	VAP-P2-NL58 09/26/23 VAP-P2-NL58_1-2	VAP-P2-NL58 09/26/23 VAP-P2-NL58_3.5-4.5	VAP-P2-NL58 09/26/23 VAP-P2-NL58_7-8	VAP-P2-NL58 09/26/23 VAP-P2-NL58_10-11	VAP-P2-NP59 09/26/23 VAP-P2-NP59_1-2	VAP-P2-NP59 09/26/23 VAP-P2-NP59_3-4	VAP-P2-NP59 09/26/23 VAP-P2-NP59_6-7	VAP-P2-NP59 09/26/23 VAP-P2-NP59_9-10	VAP-P2-NT58 09/27/23 VAP-P2-NT58_1-2	VAP-P2-NT58 09/27/23 VAP-P2-NT58_3-4	VAP-P2-NT58 09/27/23 VAP-P2-NT58_6-7	VAP-P2-NT58 09/27/23 VAP-P2-NT58_9-10
Volatile Organics (via EPA Method SW8260B - SIM)	1,700	5,600	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
Volatile Organics (via EPA Method SW5035A/8260C)																				
1,1-Dichloroethane	18,000	15,000	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
1,1-Dichloroethane	140	2,600	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
1,1,1-Trichloroethane	4,000	1,800	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
1,1,1,2-Tetrachloroethane	1,500	--	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
1,1,2-Trichloroethane	100	6,600	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
1,1,2,2-Tetrachloroethane	170	1,600	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
1,2-Dibromo-3-chloropropane (DBCP)	10	--	µg/kg	< 300	< 300	< 300	< 300	< 400	< 300	< 300	< 400	< 300	< 300	< 300	< 300	< 300 [< 300]	< 300	< 300	< 300	< 300
1,2-Dibromoethane (Ethylene dibromide)	20	110	µg/kg	< 20	< 30	< 20	< 20	< 30	< 20	< 30	< 30	< 30	< 30	< 30	< 20	< 20 [< 20]	< 20	< 30	< 20	< 20
1,2-Dichlorobenzene	14,000	280	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
1,2-Dichloroethane	100	7,200	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
1,2-Dichloropropane	100	4,600	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
1,2,3-Trichlorobenzene	--	--	µg/kg	< 370	< 420	< 390	< 410	< 520	< 390	< 410	< 480	< 420	< 420	< 420	< 410	< 380 [< 380]	< 390	< 430	< 400	< 390
1,2,3-Trichloropropane	840	--	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
1,2,3-Trimethylbenzene	--	--	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
1,2,4-Trichlorobenzene	4,200	5,900	µg/kg	< 370	< 420	< 390	< 410	< 520	< 390	< 410	< 480	< 420	< 420	< 410	< 380 [< 380]	< 390	< 430	< 400	< 390	< 390
1,2,4-Trimethylbenzene	2,100	570	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
1,3-Dichlorobenzene	170	680	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
1,3,5-Trimethylbenzene	1,800	1,100	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
1,4-Dichlorobenzene	1,700	360	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
2-Butanone (Methyl ethyl ketone) (MEK)	260,000	44,000	µg/kg	< 830	< 960	< 880	< 930	< 1,200	< 880	< 940	< 1,100	< 950	< 950	< 950	< 930	< 860 [< 870]	< 880	< 980	< 900	< 890
2-Hexanone	20,000	--	µg/kg	< 3,000	< 3,000	< 3,000	< 3,000	< 4,000	< 3,000	< 3,000	< 3,000	< 3,000	< 3,000	< 3,000	< 3,000	< 3,000 [< 3,000]	< 3,000	< 3,000	< 3,000	< 3,000
2-Methylnaphthalene	57,000	4,200	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
2-Phenylbutane (sec-Butylbenzene)	1,600	--	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	36,000	--	µg/kg	< 3,000	< 3,000	< 3,000	< 3,000	< 4,000	< 3,000	< 3,000	< 4,000	< 3,000	< 3,000	< 3,000	< 3,000	< 3,000 [< 3,000]	< 3,000	< 3,000	< 3,000	< 3,000
Acetone	15,000	34,000	µg/kg	< 1,000	< 1,000	< 1,000	< 1,000	< 2,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000	< 1,000 [< 1,000]	< 1,000	< 1,000	< 1,000	< 1,000
Acrylonitrile	100	100	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
Benzene	100	4,000	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
Bromobenzene	550	--	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
Bromochloromethane	--	--	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
Bromodichloromethane	1,600	--	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
Bromoform	1,600	--	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
Bromomethane (Methyl bromide)	200	100	µg/kg	< 200	< 300	< 200	< 200	< 300	< 200	< 300	< 300	< 300	< 300	< 300	< 200	< 200 [< 200]	< 200	< 300	< 200	< 200
Carbon disulfide	16,000	--	µg/kg	< 300	< 300	< 300	< 300	< 400	< 300	< 300	< 400	< 300	< 300	< 300	< 300	< 300 [< 300]	< 300	< 300	< 300	< 300
Carbon tetrachloride	100	760	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
Chlorobenzene	2,000	500	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
Chloroethane	8,600	22,000	µg/kg	< 300	< 300	< 300	< 300	< 400	< 300	< 300	< 400	< 300	< 300	< 300	< 300	< 300 [< 300]	< 300	< 300	< 300	< 300
Chloroform (Trichloromethane)	1,600	7,000	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
Chloromethane (Methyl chloride)	5,200	--	µg/kg	< 300	< 300	< 300	< 300	< 400	< 300	< 300	< 400	< 300	< 300	< 300	< 300	< 300 [< 300]	< 300	< 300	< 300	< 300
cis-1,2-Dichloroethene	1,400	12,000	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
cis-1,3-Dichloropropene	--	--	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
Cymene (p-Isopropyltoluene)	--	--	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
Dibromochloromethane	1,600	--	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100 [< 100]	< 100	< 100	< 100	< 100
Dibromomethane	1,600	--	µg/kg	< 300	< 300	< 300	< 300	< 400	< 300	< 300	< 400	< 300	< 300	< 300	< 300	< 300 [< 300]	< 300	< 300	< 300	< 300
Dichlorodifluoromethane (CFC-12)	95,000	--	µg/kg	< 300	< 300	< 300	< 300	< 400	< 300	< 300	< 400	< 300	< 300	< 300	< 300	< 300 [< 300]	< 300	< 300	< 300	< 300
Diethyl ether	200	--	µg/kg	< 200	< 300	< 200	< 200	< 300	< 200	< 300	< 300	< 300	< 300	< 300	< 200	< 200 [< 200]	< 200	< 300	< 200	< 200
Ethylbenzene	1,500	360	µg/kg	< 60	< 60	< 60	< 60	< 80	< 60	< 60	< 70	< 60	< 60	< 60	< 60	< 60 [<60]	< 60	< 70	< 60	< 60
Hexachloroethane	430	1,800	µg/kg	< 300	< 400	< 400	< 400	< 500	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 300 [< 300]	< 400	< 400	< 400	< 400
Isopropyl benzene	91,000	3,200	µg/kg	< 300	< 300	< 300	< 300	< 400	< 300	< 300	< 400	< 300	< 300	< 300	< 300	< 300 [< 300]	< 300	< 400	< 300	< 300
Methyl iodide	--	--	µg/kg	< 100	< 100	< 100	< 100	< 200	< 100	< 100	< 10									

Data Flagging:

Bold font represents data where detections were noted above the laboratory method detection limit.

Gray shading represents result exceeding either or both the EGLE Part 201 Generic Cleanup Criteria and Screening Levels (dated January 10, 2018) or the EGLE GSI Criteria (Updated June 25, 2018)

Notes:

Deg. C. = degrees Celsius

EGLE = Michigan Department of Environment, Great Lakes, and Energy

mg/L = milligrams per liter

NA = Not Analyzed

NR = Not Recorded

NTU = Nephelometric Turbidity Unit

s.u. = standard unit

ug/L = micrograms per liter

μS/cm = microSiemens per centimeter

[] = brackets indicate a duplicate sample result, listed next to the parent result

Lab and Validation Data Qualifiers:

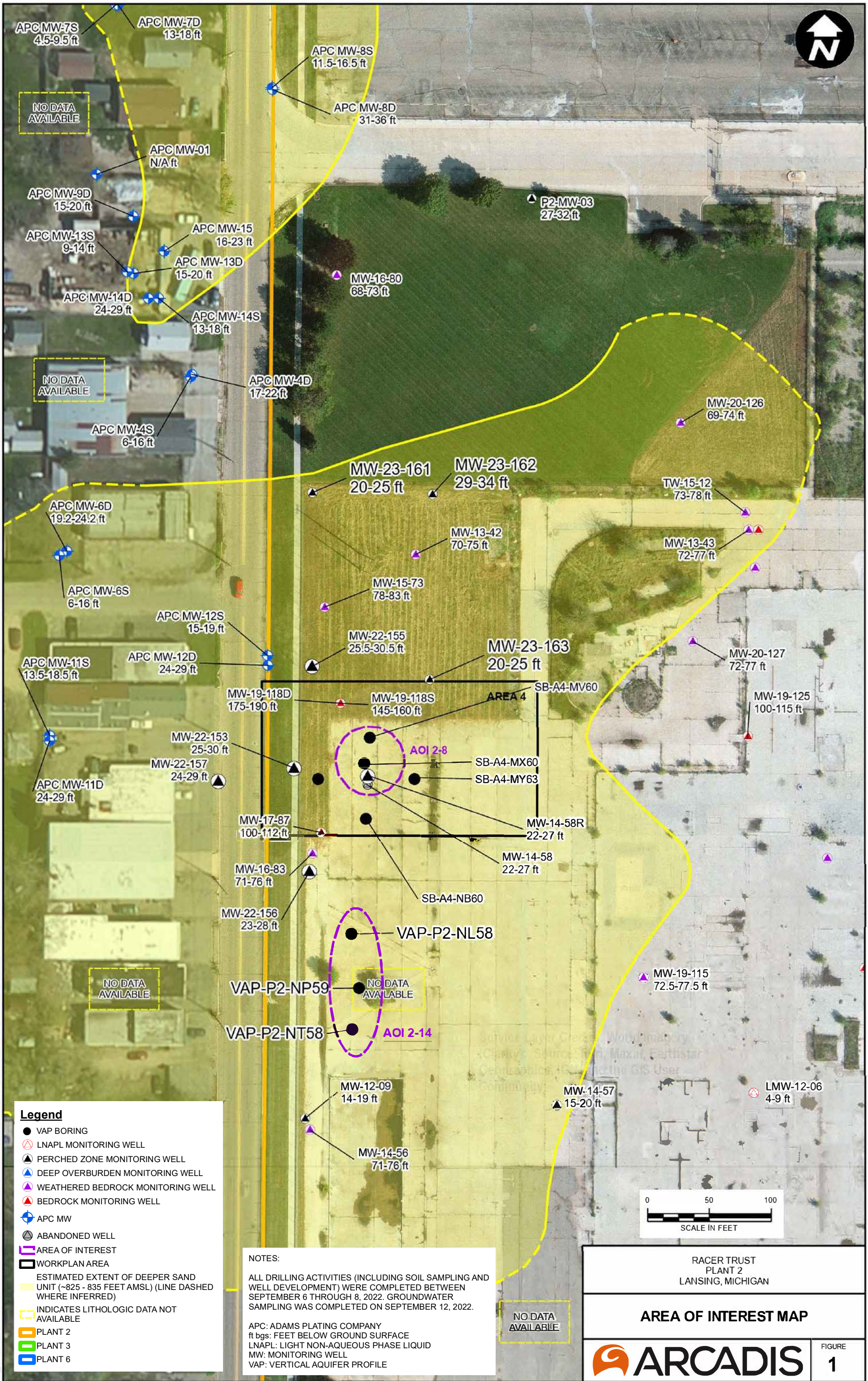
F1 = Matrix spike and/or matrix spike duplicate recovery is outside acceptance limits.

J = The compound was positively identified, however, the associated numerical value is an estimated concentration only.

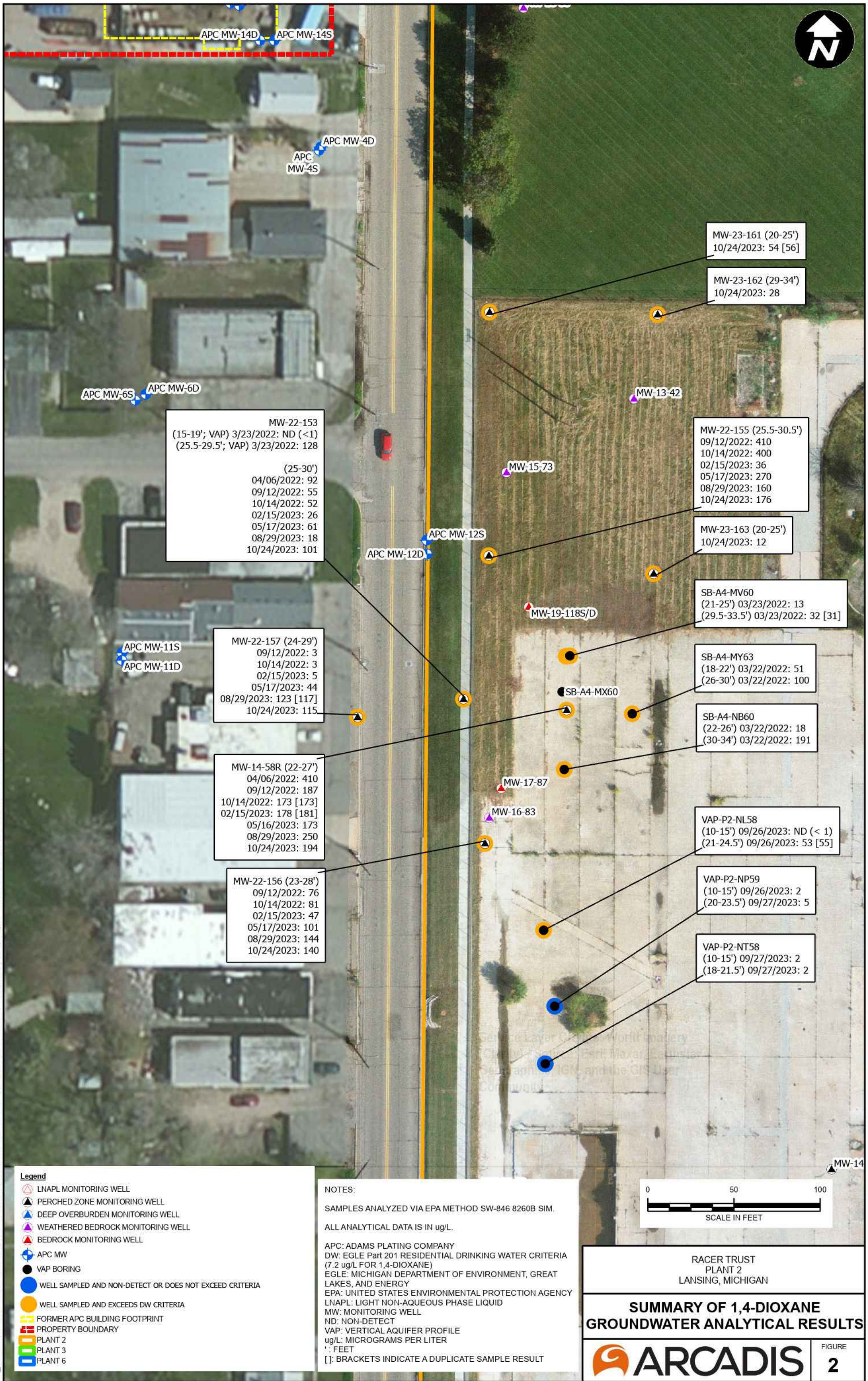
Y = Elevated reporting limit due to high target concentration.

Figures

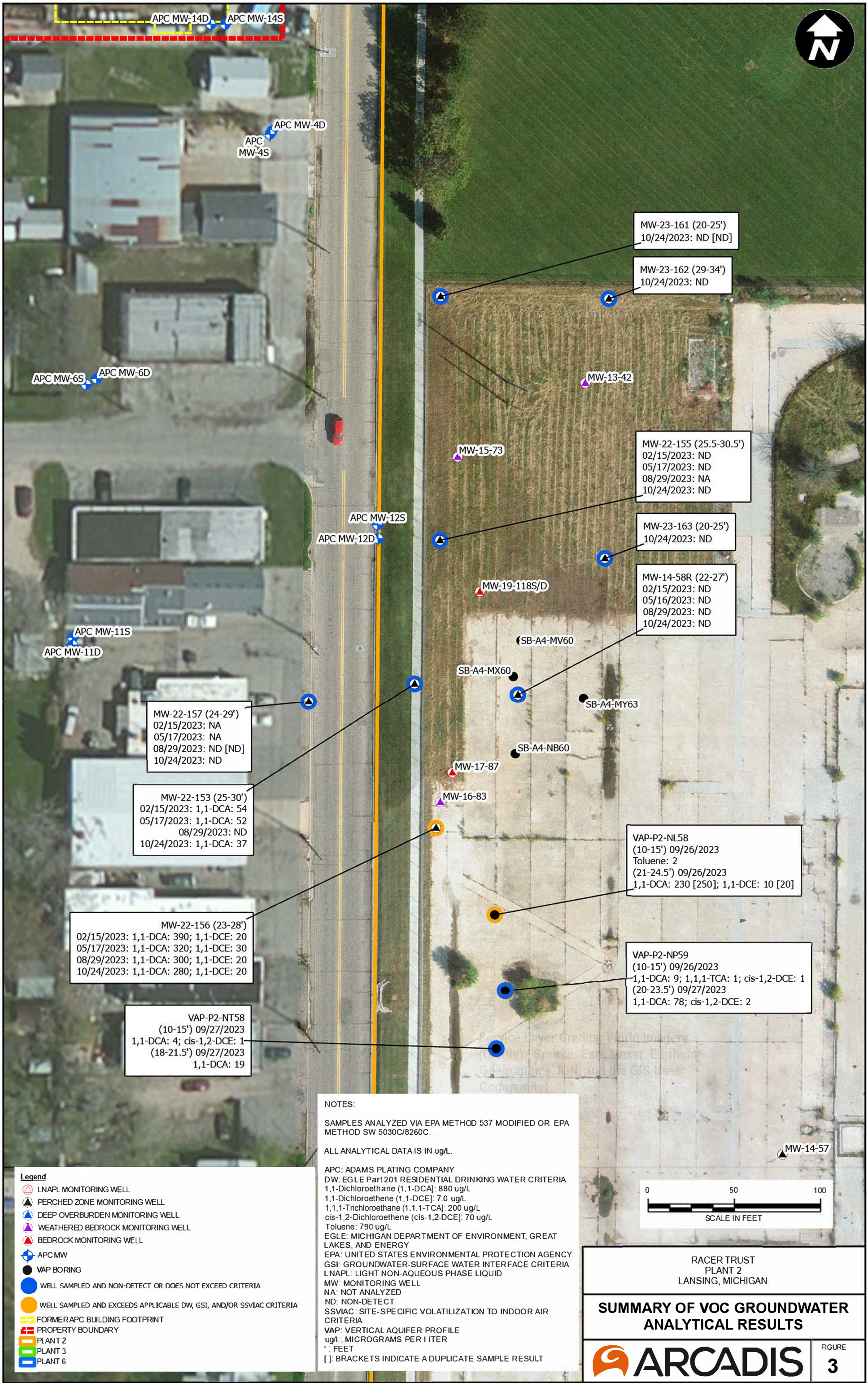
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CITY: Novi DIV: ENV PIC: J. BARRETT PM: T. LINDER TM: A. VILLHAUER TR: PROJECT NUMBER: 30112892 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
T:\ENVRACER\Buffalo\MXDs\2023 MW-14-58R Evaluation\2023 MW-14-58R Evaluation.aprx PLOTTED: 1/10/2024 1:50 PM BY: V.Davis



CITY: Novi DIV: ENV PIC: J. BARRETT PM: T. LINDER TM: A. VILLHAUER TR: PROJECT NUMBER: 30112892 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
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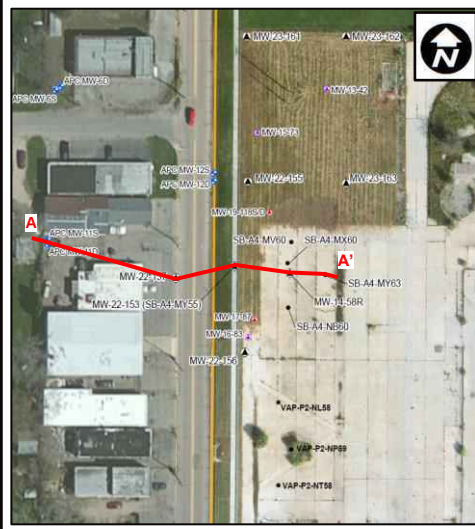
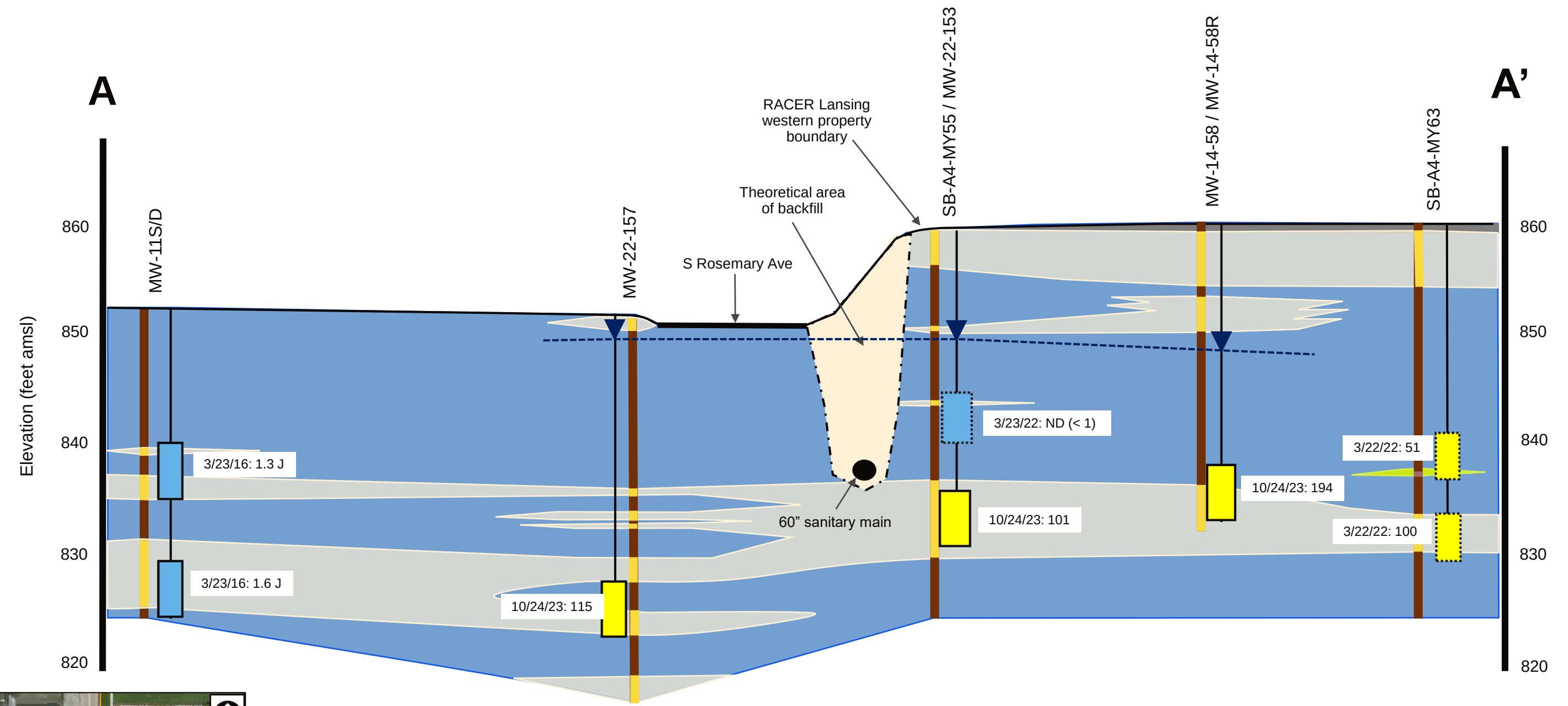


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T:_ENV\RACER\Burlington\2023 MW-14-58R Evaluation\2023 MW-14-58R Evaluation.aprx PLOTTED: 1/10/2024 1:50 PM BY: V.Davis



← West

East →



LEGEND

Geology

- Asphalt
- Concrete
- Sand
- Clay
- Silt
- Approximate Water Table

Vinyl Chloride Concentration (µg/L)

- ND – 7.2
- 7.2 – 280
- 280 – 1,000

- Groundwater result
- Soil result

Notes:

1. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Residential Drinking Water (DW) screening level for 1,4-dioxane is 7.2 µg/L.
2. The EGLE Groundwater Surface Water Interface (GSI) screening level for 1,4-dioxane is 280 µg/L.
3. The most recent concentration from each monitoring well (MW) and soil boring (SB) location is shown. Refer to Tables 2 and 3 for analytical results.
4. Samples were analyzed under USEPA Method SW8260B SIM.
5. Sanitary sewer line locations are approximate and not drawn to scale.
6. All groundwater analytical results are listed in micrograms per liter (µg/L).
7. J = estimated value

RACER TRUST
PLANT 2
LANSING, MICHIGAN

**CROSS-SECTION A-A'
WEST TO EAST**

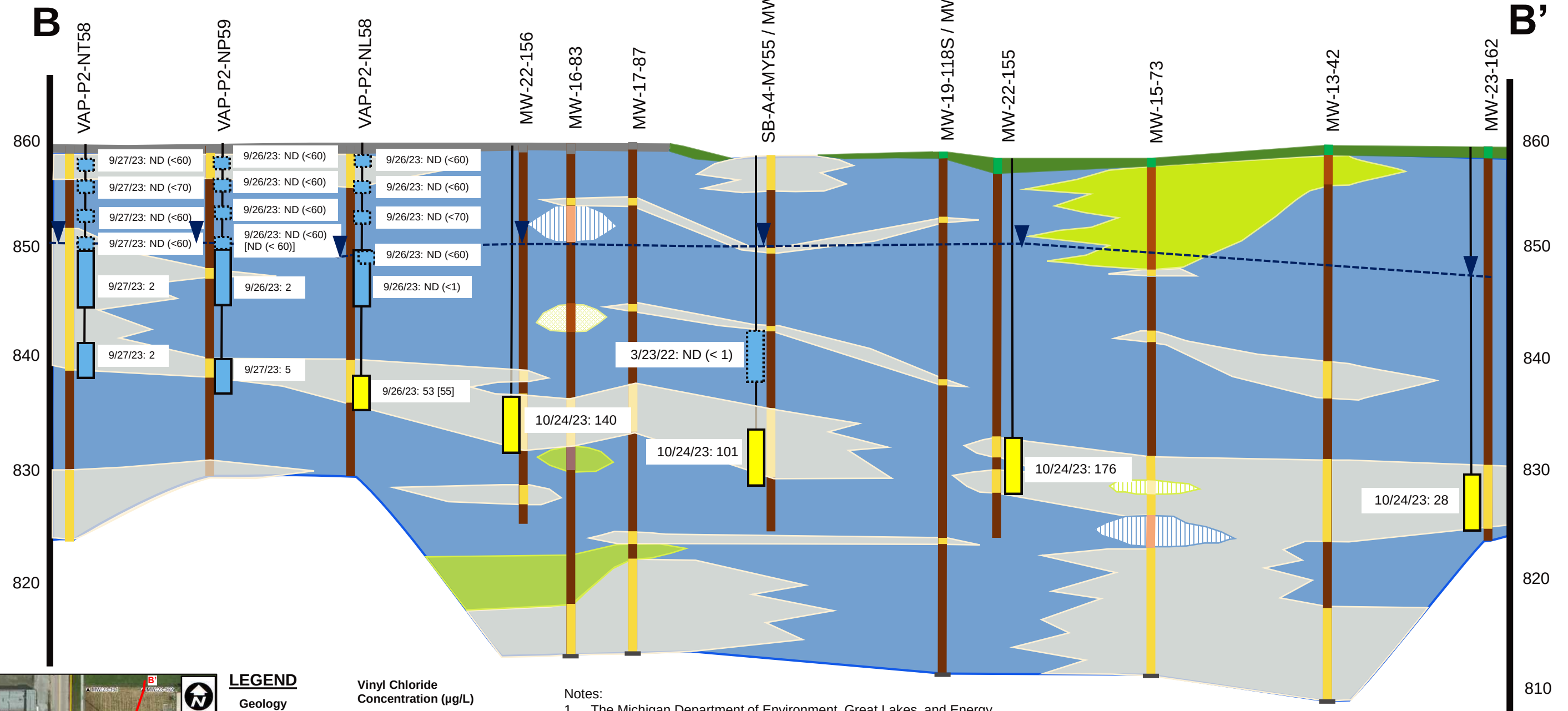


FIGURE

5

← South

***North* →**



LEGEND

Geology

**Vinyl Chloride
Concentration (µg/L)**

ND – 7.2

7.2 – 280

280 – 1,000

☐ Groundwater result

Soil result

— Boring log continues,
full vertical extent not
shown on cross-section

Notes:

1. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Residential Drinking Water (DW) screening level for 1,4-dioxane is 7.2 µg/L.
2. The EGLE Groundwater Surface Water Interface (GSI) screening level for 1,4-dioxane is 280 µg/L.
3. The most recent concentration from each monitoring well (MW) and soil boring (SB) location is shown. Refer to Tables 2 and 3 for analytical results.
4. Samples were analyzed under USEPA Method SW8260B SIM.
5. Sanitary sewer line locations are approximate and not drawn to scale.
6. All groundwater analytical results are listed in micrograms per liter (µg/L).
7. J = estimated value
8. Y = elevated reporting limit due to high target concentration
9. Deep wells (e.g., MW-19-118S/D, MW-16-83, etc.) are screened within the weathered bedrock zone or deeper. Perched groundwater data is not available at these locations.

RACER TRUST
PLANT 2
LANSING, MICHIGAN

CROSS-SECTION B-B' SOUTH TO NORTH



FIGURE

6



Attachment 1

Soil Boring Logs

Well/Boring ID: MW-14-58

Client: RACER

Location: RACER Lansing Plant 2

Weather Conditions: Sunny 75 F

	Remarks: bgs = below ground surface Groundwater encountered from 20.0'-28.0' bgs. No odor or staining observed.

Well/Boring ID: MW-14-58

Client: RACER

Location: RACER Lansing Plant 2

Weather Conditions: Sunny 75 F

	Remarks: bgs = below ground surface Groundwater encountered from 20.0'-28.0' bgs. No odor or staining observed.

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 10/27/2021 Logger: A. Westhuis
 Project Number: 30042872 Date Completed: 10/27/2021 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 50° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.3		(0.0-1.0') CONCRETE.	(0.0-0.5') Concrete Well Pad	
2					0.2		(1.0-6.0') SAND, medium, subrounded; little silt; trace granules, subrounded; well sorted; moist; dark yellowish brown (10YR 4/4).		
3					0.0				
4			84		0.0				
5					0.0			(0.0-27.0') 6.0" dia. drilled hole	
6					0.0				
7					0.0		(6.0-7.0') CLAY, medium plasticity, slow dilatancy; little silt; trace to little sand, fine to medium, subrounded; moist to wet; stiff; very dark gray (10YR 3/1).		
8					0.0		(7.0-9.0') SAND, medium, subrounded; little silt; trace granules, subrounded; trace pebbles, small, subrounded; poorly sorted; moist; dark yellowish brown (10YR 4/4).		
9					0.0			(0.5-18.0') Filter Pack Sand	
10					0.0		(9.0-14.0') CLAY, low plasticity, slow to no dilatancy; some silt; trace sand, very fine to fine, subrounded; trace granules, subrounded; trace pebbles, small to large, subrounded; dry to moist; medium stiff to stiff; very dark gray (10YR 3/1).		
11					0.0				
12			120		0.0			(0.0-22.0') 2.0" dia. PVC casing	
13					0.0				
14					0.0				
15					0.0		(14.0-20.0') CLAY, medium to high plasticity, no dilatancy; trace sand, very fine; trace granules, subrounded; trace pebbles, small to medium, subrounded; moist; soft; dark gray (10YR 4/1).		
16					0.0				
17					0.0				
18					0.0			(18.0-19.0') Bentonite Pellets	
19					0.0			(19.0-20.0') Choker Sand	
20					0.0				

Drilling Co.: Cascade Sampling Method: 10.0' Core Barrel
 Driller: Chris Barden Sampling Interval: Continuous
 Drilling Method: Sonic Drilling Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet. bgs = below ground surface. Converted to Well: ☒ Yes ☐ No
 Surface Elev.: _____
 North Coor.: _____
 East Coor.: _____

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 10/27/2021 Logger: A. Westhuis
 Project Number: 30042872 Date Completed: 10/27/2021 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 50° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			120		0.0		(20.0-24.0') CLAY, medium to low plasticity, no dilatancy; some sand, fine, subrounded; trace granules, subrounded; trace pebbles, small to large, subrounded; moist; stiff; dark gray (10YR 4/1).	(20.0-27.0') Filter Pack Sand	
22					0.0				
23					0.0				
24					0.0				
25					0.0		(24.0-27.0') SAND, fine to medium, subrounded; trace to little silt; well sorted; wet; dark grayish brown (10YR 4/2).	(22.0-27.0') 2.0" dia. Stainless-Steel 0.010-Slot Screen	
26					0.0				
27					0.0				
28						End of boring at 27.0' bgs.			
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: _____

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 03/23/2022 Logger: A. Westhuis
 Project Number: 30042872 Date Completed: 03/23/2022 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 25° F, Cloudy

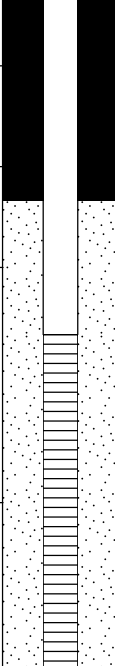
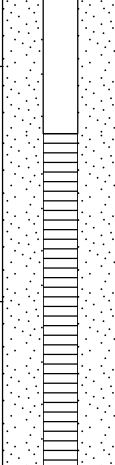
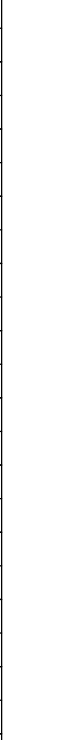
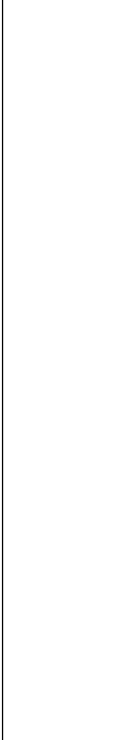
Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.4		(0.0-3.0') SAND, very fine to fine, subrounded; little silt, nonplastic, no dilatancy; little clay; trace granules, subrounded; trace pebbles, small, subrounded; well sorted; dry to moist; loose; yellowish brown (10YR 5/4).	(0.0-0.5') Pad with Stick-Up Casing (0.5-1.5') Filter Pack Sand	
2			60		0.3				
3					0.2				
4					0.1		(3.0-8.5') CLAY, high plasticity, no dilatancy; little silt; little sand, very fine to fine, subrounded; trace granules, subrounded; trace pebbles, small to medium, subrounded; dry to moist; medium stiff; brown (10YR 4/3) to dark gray (10YR 4/1).	(0.5-25.0') 2.0" dia. SCH-40 PVC casing	
5					0.2				
6					0.0				
7			43		0.0				
8					0.0				
9					0.0		(8.5-9.0') SAND, very fine to coarse, subangular to subrounded; little silt; trace granules, subangular to subrounded; trace pebbles, small to medium, subangular to subrounded; poorly sorted; moist; loose; grayish brown (10YR 5/2).		
10					0.0				
11					0.0		(9.0-11.5') CLAY, low plasticity, no dilatancy; little silt; little sand, very fine to medium, subrounded; trace pebbles, small, subrounded; dry to moist; stiff; dark gray (10YR 4/1). Note: Organic-rich layer present from 9.5-10.5' bgs.	(1.5-22.0') Bentonite Slurry	
12					0.0				
13			55		0.0		(11.5-15.0') CLAY, high plasticity, no dilatancy; little silt; trace sand, very fine; moist; soft; gray (10YR 5/1).	(0.0-30.0') 8.0" dia. drilled hole	
14					0.0				
15					0.0				
16					0.0		(15.0-22.5') CLAY, medium plasticity, no dilatancy; little silt; trace sand, very fine to fine, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; stiff; grayish brown (10YR 5/2). Note: Sand seam, small, very fine, wet present at 16.0' bgs.		
17				SB-A4-MY55_15-19_03232022 @ 14:40	0.0				
18			35		0.0				
19					0.0				
20					0.0				

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
 Driller: Nick Wiseman Sampling Interval: Continuous
 Drilling Method: Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet. bgs = below ground surface. Step-out location west of MW-14-58R. Converted to Well: ☒ Yes ☐ No
 Surface Elev.: NA
 North Coord.:
 East Coord.:

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 03/23/2022 Logger: A. Westhuis
 Project Number: 30042872 Date Completed: 03/23/2022 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 25° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			34		0.0		(15.0-22.5') CLAY, medium plasticity, no dilatancy; little silt; trace sand, very fine to fine, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; stiff; grayish brown (10YR 5/2).	(1.5-22.0') Bentonite Slurry	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26				SB-A4-MY55_25.5-29.5_03232022 35 @ 13:15	0.0		(22.5-29.5') SAND, very fine to coarse, subangular to subrounded; little silt; trace granules, subangular to subrounded; trace pebbles, small to medium, subangular to subrounded; poorly sorted; wet; loose; pale brown (10YR 6/3).	(22.0-23.0') Bentonite Pellets	
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31							(29.5-30.0') CLAY, medium plasticity, no dilatancy; some silt; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; stiff; gray (10YR 5/1). End of boring at 30.0' bgs.	(23.0-30.0') Filter Pack Sand	
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: _____

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 09/07/2022 Logger: A. Westhuis
 Project Number: 30112892 Date Completed: 09/07/2022 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 78° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-1.5') GRASS/TOPSOIL.	(0.0-0.5') Concrete Well Pad with Stick-Up Casing (0.5-1.5') Filter Pack Sand	
2			60		0.0		(1.5-11.0') CLAY, low plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry; very stiff; dark yellowish brown (10YR 3/4).		
3					0.0				
4					0.0				
5					0.0				
6			60		0.0				
7					0.0				
8					0.0				
9					0.0				
10					0.0				
11					0.0				
12			40		0.0		(11.0-21.0') CLAY, high plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; medium stiff; gray (10YR 5/1).	(0.5-25.5') 2.0" dia. SCH-40 PVC casing (1.5-23.5') Bentonite Slurry	
13					0.0				
14					0.0				
15					0.0				
16					0.0				
17			30		0.0				
18					0.0				
19					0.0				
20					0.0				

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
 Driller: Nick Wiseman Sampling Interval: Continuous
 Drilling Method: Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet. bgs = below ground surface. Stick-up well casing approx. 3' tall. Converted to Well: ☒ Yes ☐ No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 09/07/2022 Logger: A. Westhuis
Project Number: 30112892 Date Completed: 09/07/2022 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 78° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0				
22			32		0.0		(21.0-25.0') CLAY, medium plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; stiff; grayish brown (10YR 5/2).	(1.5-23.5') Bentonite Slurry	
23					0.0				
24					0.0				
25					0.0			(23.5-30.5') Filter Pack Sand	
26					0.0		(25.0-27.0') SAND, very fine to fine, subrounded; little silt; well sorted; wet; grayish brown (10YR 5/2).		
27					0.0				
28			30		0.0		(27.0-28.0') CLAY, low plasticity, no dilatancy; little silt; little sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; moist to wet; stiff; grayish brown (10YR 5/2).	(25.5-30.5') 2.0" dia. Stainless-Steel 0.010-Slot Screen	
29					0.0		(28.0-30.5') SAND, very fine to medium, subrounded; little silt; poorly sorted; wet; loose; grayish brown (10YR 5/2).		
30					0.0				
31					0.0		(30.5-35.0') CLAY, high plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; medium stiff; gray (10YR 5/1).	(30.5-35.0') Backfilled with bentonite	
32			30		0.0				
33					0.0				
34					0.0				
35					0.0		End of boring at 35.0' bgs.		
36									
37									
38									
39									
40									
41									

Remarks:

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 09/07/2022 Logger: A. Westhuis
Project Number: 30112892 Date Completed: 09/07/2022 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 78° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.7') CONCRETE.	(0.0-0.5') Concrete Well Pad with Stick-Up Casing (0.5-1.0') Filter Pack Sand	
2			60		0.0		(0.7-13.0') CLAY, low plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry; very stiff; dark yellowish brown (10YR 3/4).		
3					0.0				
4					0.0				
5					0.0				
6					0.0				
7			48		0.0				
8					0.0				
9					0.0				
10					0.0			(0.5-23.0') 2.0" dia. SCH-40 PVC casing (1.5-21.0') Bentonite Slurry	
11					0.0				
12			48		0.0				
13					0.0				
14					0.0		(13.0-20.5') CLAY, medium to high plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; medium stiff; gray (10YR 5/1). Note: Small, wet, very fine sand lens present at 14.0' bgs and 14.5' bgs.		
15					0.0				
16					0.0				
17			42		0.0				
18					0.0				
19					0.0				
20					0.0				

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
Driller: Nick Wiseman Sampling Interval: Continuous
Drilling Method: Direct Push Water Level Start (ft. bgs.): NA
Drilling Fluid: None Water Level Finish (ft. btoc.): NA
Remarks: ' / ft = feet. bgs = below ground surface. Stick-up well casing approx. 3' tall. Converted to Well: ☒ Yes ☐ No
Surface Elev.: NA
North Coor: _____
East Coor: _____

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 09/07/2022 Logger: A. Westhuis
 Project Number: 30112892 Date Completed: 09/07/2022 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 78° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well	
21			42		0.0		(20.5-21.5') SAND, very fine to fine, subrounded; little silt; well sorted; wet; grayish brown (10YR 5/2).	(1.5-21.0') Bentonite Slurry		
22					0.0		(21.5-22.5') CLAY, low plasticity, no dilatancy; little silt; little sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; moist to wet; stiff; grayish brown (10YR 5/2).	(21.0-29.0') Filter Pack Sand		
23					0.0		(22.5-28.0') SAND, very fine to fine, subrounded; little silt; well sorted; wet; grayish brown (10YR 5/2).			
24					0.0					
25					0.0					
26			40		0.0			(23.0-28.0') 2.0" dia. Stainless-Steel 0.010-Slot Screen		
27					0.0					
28					0.0					
29					0.0					(28.0-31.0') CLAY, high plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; medium stiff; gray (10YR 5/1).
30					0.0					
31	0.0	(31.0-33.0') SAND, very fine to fine, subrounded; little silt; well sorted; wet; dry; light (10YR 7/2).								
32	0.0									
33	0.0									
34	0.0		(33.0-35.0') CLAY, nnplastic to low plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry; very stiff; gray (10YR 5/1).							
35							End of boring at 35.0' bgs.			
36										
37										
38										
39										
40										
41										

Remarks: _____

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 09/08/2022 Logger: A. Westhuis
Project Number: 30112892 Date Completed: 09/08/2022 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 78° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.4') ASPHALT.	(0.0-0.5') Concrete Well Pad with Flushmount Casing (0.5-2.0') Filter Pack Sand	
2			60		0.0		(0.4-2.0') SAND, very fine to coarse, subrounded; little silt; trace pebbles, small to medium, subrounded; trace granules, subrounded; poorly sorted; dry; dark yellowish brown (10YR 3/4). Note: Fill material.		
3					0.0		(2.0-7.5') CLAY, low to medium plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; medium stiff; dark grayish brown (10YR 4/2).		
4					0.0				
5					0.0				
6			60		0.0			(0.5-24.0') 2.0" dia. SCH-40 PVC casing	
7					0.0				
8					0.0		(7.5-16.0') CLAY, high plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; moist; medium stiff; gray (10YR 5/1).		
9					0.0				
10					0.0				
11			30		0.0			(2.0-22.0') Bentonite Slurry	
12					0.0				
13					0.0				
14					0.0				
15					0.0				
16			36		0.0		(16.0-16.8') SAND, very fine to fine, subrounded; little silt; well sorted; wet; grayish brown (10YR 5/2).		
17					0.0		(16.8-17.5') CLAY, high plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; medium stiff; gray (10YR 5/1).		
18					0.0		(17.5-18.3') SAND, very fine to fine, subrounded; little silt; well sorted; wet; light gray (10YR 7/2).		
19					0.0		(18.3-18.5') CLAY, low plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; moist; stiff; gray (10YR 5/1).		
20					0.0				

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
Driller: Nick Wiseman Sampling Interval: Continuous
Drilling Method: Direct Push Water Level Start (ft. bgs.): NA
Drilling Fluid: None Water Level Finish (ft. btoc.): NA
Remarks: ' / ft = feet. bgs = below ground surface. Flushmount well. Converted to Well: ☒ Yes ☐ No
Surface Elev.: NA
North Coor.: _____
East Coor.: _____

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 09/08/2022 Logger: A. Westhuis
 Project Number: 30112892 Date Completed: 09/08/2022 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 78° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			36		0.0		(18.5-19.0') SAND, very fine to fine, subrounded; little silt; well sorted; wet; light gray (10YR 7/2).	(2.0-22.0') Bentonite Slurry	
22					0.0		(19.0-22.0') CLAY, nonplastic to low plasticity, no dilatancy; little silt; little sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; moist; stiff; gray (10YR 5/1).		
23					0.0		(22.0-24.0') SAND, very fine to medium, subrounded; little silt; trace granules, subrounded; trace pebbles, small, subrounded; poorly sorted; wet; grayish brown (10YR 5/2).	(22.0-30.0') Filter Pack Sand	
24					0.0				
25			36		0.0		(24.0-27.0') CLAY, nonplastic to low plasticity, no dilatancy; little silt; little sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; moist; stiff; gray (10YR 5/1).	(24.0-29.0') 2.0" dia. Stainless-Steel 0.010-Slot Screen	
26					0.0				
27					0.0		(27.0-29.0') SAND, fine to medium, subrounded; little silt; trace granules, subrounded; well sorted; wet; brown (10YR 5/3).		
28					0.0				
29			36		0.0		(29.0-33.0') CLAY, medium plasticity, no dilatancy; little silt; little sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; moist; stiff; grayish brown (10YR 5/2).	(30.0-35.0') Backfilled with bentonite	
30					0.0				
31					0.0		(33.0-35.0') SAND, very fine to fine, subrounded; little silt; well sorted; dry; light gray (10YR 7/1).		
32					0.0				
33					0.0		(33.0-35.0') SAND, very fine to fine, subrounded; little silt; well sorted; dry; light gray (10YR 7/1).		
34					0.0				
35					0.0				
36					0.0		End of boring at 35.0' bgs.		
37									
38									
39									
40									
41									

Remarks: _____

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 09/25/2023 Logger: A. Westhuis
 Project Number: 30112892 Date Completed: 09/25/2023 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 65° F. Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-3.0') CLAY, nonplastic to low plasticity, no dilatancy; and SAND, very fine to fine, subrounded; little silt; trace granules, subrounded; trace pebbles, small to medium, subrounded; dry; stiff; brown (10YR 5/3).	(0.0-0.5') Concrete Well Pad with Stick-Up Casing (0.5-1.0') Filter Pack Sand	
2					0.0				
3			60		0.0				
4					0.0		(3.0-7.0') CLAY, low plasticity, no dilatancy; little silt; little sand, very fine to fine, subrounded; dry; stiff; brown (10YR 4/3).		
5					0.0			(0.5-25.0') 2.0" dia. SCH-40 PVC casing	
6					0.0				
7					0.0				
8			48		0.0		(7.0-8.5') CLAY, low to medium plasticity, no dilatancy; little to trace silt; little to trace sand, very fine to fine, subrounded; dry; medium stiff; grayish brown (10YR 5/2).		
9					0.0				
10					0.0		(8.5-14.0') CLAY, low plasticity, no dilatancy; trace silt; trace sand, very fine; moist; soft; gray (10YR 6/1).	(1.0-18.0') Bentonite Chips	
11					0.0				
12					0.0				
13			60		0.0			(0.0-35.0') 8.0" dia. drilled hole	
14					0.0				
15					0.0		(14.0-21.0') CLAY, medium plasticity, no dilatancy; some silt; little sand, very fine to medium, subrounded; trace granules, subrounded; trace pebbles, small to medium, subrounded; dry to moist; medium stiff to stiff; grayish brown (10YR 5/2). Note: Small sand seams, very fine to medium, subrounded; poorly sorted; wet present at 14.0 ft bgs and 14.5 ft bgs.		
16					0.0				
17					0.0				
18			42		0.0				
19					0.0				
20					0.0			(18.0-27.0') Filter Pack Sand	

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
 Driller: Nick Wiseman Sampling Interval: Continuous
 Drilling Method: Direct Push Water Level Start (ft. bgs.): 14
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet. bgs = below ground surface. Hand augered to 5.0 ft bgs. Stick-up well casing approx. 3' tall. Converted to Well: ☒ Yes ☐ No
 Surface Elev.: NA
 North Coor.:
 East Coor.:

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 09/25/2023 Logger: A. Westhuis
 Project Number: 30112892 Date Completed: 09/25/2023 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 65° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			42		0.0		(21.0-23.0') SAND, very fine to medium, subangular; little silt; trace granules, subangular; trace pebbles, small, subangular; poorly sorted; wet; grayish brown (10YR 5/2).	(20.0-25.0') 2.0" dia. SCH-40 PVC 0.010-Slot Screen	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26			36		0.0		(23.0-30.0') CLAY, medium plasticity, no dilatancy; some silt; little sand, very fine to medium, subrounded; trace granules, subrounded; trace pebbles, small to medium, subrounded; dry to moist; medium stiff to stiff; grayish brown (10YR 5/2).		
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31			36		0.0		(30.0-35.0') SAND, very fine to fine, subrounded; little silt; well sorted; dry; very pale brown (10YR 4/3).	(27.0-35.0') Backfilled with Bentonite Chips	
32					0.0				
33					0.0				
34					0.0				
35					0.0				
36							End of boring at 35.0' bgs.		
37									
38									
39									
40									
41									

Remarks: _____

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 09/25/2023 Logger: A. Westhuis
 Project Number: 30112892 Date Completed: 09/26/2023 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 65° F. Cloudy, Light Rain

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-9.0') CLAY, nonplastic, no dilatancy; little silt; little sand, very fine to fine, subrounded; trace granules, subrounded; trace pebbles, small to medium, subrounded; dry; stiff; brown (10YR 5/3).	(0.0-0.5') Concrete Well Pad with Stick-Up Casing (0.5-1.0') Filter Pack Sand	
2			60		0.0				
3					0.0				
4					0.0				
5					0.0			(0.5-29.0') 2.0" dia. SCH-40 PVC casing	
6					0.0				
7			60		0.0				
8					0.0				
9					0.0				
10					0.0		(9.0-17.5') CLAY, medium plasticity, no dilatancy; little silt; little to trace sand, very fine to fine, subrounded; dry to moist; medium stiff; grayish brown (10YR 5/2).		
11					0.0			(1.0-27.0') Bentonite Chips	
12					0.0			(0.0-35.0') 8.0" dia. drilled hole	
13			60		0.0				
14					0.0				
15					0.0				
16					0.0				
17					0.0				
18			48		0.0		(17.5-18.5') CLAY, low plasticity, no dilatancy; trace silt; trace sand, very fine; moist; soft; gray (10YR 6/1).		
19					0.0				
20					0.0				

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
 Driller: Nick Wiseman Sampling Interval: Continuous
 Drilling Method: Direct Push Water Level Start (ft. bgs.): 18.5
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet. bgs = below ground surface. Hand augered to 5.0 ft bgs. Stick-up well casing approx. 3' tall. Converted to Well: ☒ Yes ☐ No
 Surface Elev.: NA
 North Coor: _____
 East Coor: _____

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 09/25/2023 Logger: A. Westhuis
Project Number: 30112892 Date Completed: 09/26/2023 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 65° F, Cloudy, Light Rain

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0		(18.5-27.0') CLAY, medium to high plasticity, no dilatancy; some silt; little sand, very fine to medium, subrounded; trace granules, subrounded; trace pebbles, small to medium, subrounded; moist; medium stiff to stiff; brown (10YR 5/3). Note: Small sand seams, very fine to medium, subrounded; poorly sorted; wet present at 18.5 ft bgs and 20.0 ft bgs.	(1.0-27.0') Bentonite Chips	
22			36		0.0				
23					0.0				
24					0.0				
25					0.0				
26					0.0			(27.0-34.0') Filter Pack Sand	
27			40		0.0		(27.0-30.0') CLAY, nonplastic, no dilatancy; little silt; some sand, fine, subrounded; trace granules, subrounded; trace pebbles, small to medium, subrounded; moist to wet; stiff; grayish brown (10YR 5/2). Note: Small sand seam, very fine to fine, subrounded; well sorted; wet present at 27.0 ft bgs.		
28					0.0				
29					0.0				
30					0.0			(29.0-34.0') 2.0" dia. SCH-40 PVC 0.010-Slot Screen	
31					0.0		(30.0-34.0') SAND, very fine to fine, subrounded; some silt; well sorted; wet; grayish brown (10YR 5/2).		
32					0.0				
33			48		0.0				
34					0.0			(34.0-35.0') Natural Collapse	
35					0.0		(34.0-35.0') CLAY, nonplastic, no dilatancy; little silt; some sand, very fine; trace granules, subrounded; trace pebbles, small to medium, subrounded; moist; stiff; grayish brown (10YR 5/2).		
36							End of boring at 35.0' bgs.		
37									
38									
39									
40									
41									

Remarks:

Soil Boring Log

Sheet: 1 of 2

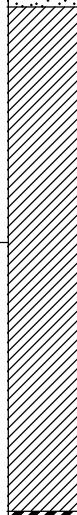
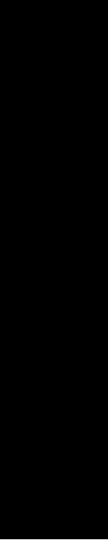
Project Name: RACER Lansing Date Started: 09/26/2023 Logger: A. Westhuis
 Project Number: 30112892 Date Completed: 09/26/2023 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 60° F. Cloudy, Light Rain

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') GRASS/TOPSOIL.	(0.0-0.5') Concrete Well Pad with Stick-Up Casing (0.5-1.0') Filter Pack Sand	
2			60		0.0		(0.3-8.0') CLAY, low plasticity, no dilatancy; little silt; little sand, very fine to medium, subrounded; trace granules, subrounded; trace pebbles, small to medium, subrounded; dry; stiff; brown (10YR 4/3).		
3					0.0				
4					0.0				
5					0.0			(0.5-20.0') 2.0" dia. SCH-40 PVC casing	
6					0.0				
7			48		0.0				
8					0.0				
9					0.0		(8.0-12.0') CLAY, medium to high plasticity, no dilatancy; little to trace silt; trace sand, very fine to fine, subrounded; trace granules, subrounded; trace pebbles, small to medium, subrounded; dry to moist; stiff; gray (10YR 5/1).	(1.0-18.0') Bentonite Chips	
10					0.0				
11					0.0				
12					0.0			(0.0-35.0') 8.0" dia. drilled hole	
13			54		0.0		(12.0-13.0') SAND, very fine to medium, subrounded; some to little silt; poorly sorted; wet; grayish brown (10YR 5/2).		
14					0.0		(13.0-21.0') CLAY, high plasticity, no dilatancy; little sand, very fine to fine, subrounded; trace silt; trace granules, subrounded; trace pebbles, small to medium, subrounded; moist; medium stiff to stiff; grayish brown (10YR 5/2).		
15					0.0				
16					0.0				
17					0.0				
18			48		0.0				
19					0.0			(18.0-27.0') Filter Pack Sand	
20					0.0				

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
 Driller: Nick Wiseman Sampling Interval: Continuous
 Drilling Method: Direct Push Water Level Start (ft. bgs.): 12
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet. bgs = below ground surface. Hand augered to 5.0 ft bgs. Stick-up well casing approx. 3' tall. Converted to Well: ☒ Yes ☐ No
 Surface Elev.: NA
 North Coord.:
 East Coord.:

Sheet: 2 of 2

Project Name:	<u>RACER Lansing</u>	Date Started:	<u>09/26/2023</u>	Logger:	<u>A. Westhuis</u>
Project Number:	<u>30112892</u>	Date Completed:	<u>09/26/2023</u>	Editor:	<u>C. Cisco</u>
Project Location:	<u>Lansing, MI</u>	Weather Conditions: <u>60° F, Cloudy, Light Rain</u>			

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well		
21			36		0.0		(21.0-21.5') SAND, fine to medium, subrounded; little to trace silt; well sorted; wet; pale brown (10YR 6/3). (21.5-29.0') CLAY, medium to low plasticity, no dilatancy; some to little silt; little sand, very fine to fine, subrounded; trace granules, subrounded; trace pebbles, small to large subrounded; moist; stiff; gray (10YR 5/1).	(20.0-25.0') 2.0" dia. SCH-40 PVC 0.010-Slot Screen			
22					0.0						
23					0.0						
24					0.0						
25					0.0						
26			36		0.0						
27					0.0						
28					0.0						
29					0.0						
30					0.0						
31			42		0.0		(29.0-35.0') CLAY, medium to high plasticity, no dilatancy; little silt; trace sand, fine, subrounded; trace granules, subrounded; trace pebbles, small to large, subrounded; moist; medium stiff to stiff; gray (10YR 5/1).	(30.0-35.0') Backfilled with Bentonite Chips			
32					0.0						
33					0.0						
34					0.0						
35					0.0						
36						End of boring at 35.0' bgs.					
37											
38											
39											
40											
41											

Remarks:	

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 03/23/2022 Logger: A. Westhuis
 Project Number: 30042872 Date Completed: 03/23/2022 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 25° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-1.0') CONCRETE.		
2			60		0.0		(1.0-6.5') SAND, very fine to fine, subrounded; trace silt, nonplastic, no dilatancy; well sorted; moist to wet; loose; yellowish brown (10YR 5/4).		
3					0.0				
4					0.0				
5					0.1				
6					0.0				
7			47		0.0		(6.5-12.5') CLAY, low plasticity, no dilatancy; some sand, very fine to fine, subrounded; little silt, nonplastic, no dilatancy; trace pebbles, small, subrounded; trace granules, subrounded; dry to moist; stiff; dark grayish brown (10YR 4/2).		
8					0.0				
9					0.0				
10					0.0				
11					0.0				
12			44		0.0				
13					0.0		(12.5-19.0') CLAY, high plasticity, no dilatancy; little silt; little sand, very fine; trace pebbles, small, subrounded; trace granules, subrounded; moist; medium stiff; gray (10YR 5/1).		
14					0.0				
15					0.0				
16					0.0				
17					0.0				
18			39		0.0				
19					0.0				
20					0.0				

(0.0-35.0')
Backfilled
with
bentonite

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
 Driller: Nick Wiseman Sampling Interval: Continuous
 Drilling Method: Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet. bgs = below ground surface. Step-out Converted to Well: ☐ Yes ☒ No
location north of MW-14-58R. VAP samples Surface Elev.: NA
collected from 21-25' bgs and 29.5-33.5' bgs. North Coord: _____
 East Coord: _____

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 03/23/2022 Logger: A. Westhuis
 Project Number: 30042872 Date Completed: 03/23/2022 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 25° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class			Description	Construction Details	Well						
21			35	SB-A4-MV60_21-25_03232022 @ 11:00	0.0				(19.0-30.0') SILT, nonplastic, slow dilatancy; some sand, very fine to fine, subrounded; little clay, nonplastic, slow dilatancy; trace pebbles, small to medium, subrounded; trace granules, subrounded; poorly sorted; wet; medium stiff; grayish brown (10YR 5/2).	(0.0-35.0') Backfilled with bentonite							
22					0.0												
23					0.0												
24					0.0												
25					0.0												
26			37		0.0										(19.0-30.0') SILT, nonplastic, slow dilatancy; some sand, very fine to fine, subrounded; little clay, nonplastic, slow dilatancy; trace pebbles, small to medium, subrounded; trace granules, subrounded; poorly sorted; wet; medium stiff; grayish brown (10YR 5/2).	(0.0-35.0') Backfilled with bentonite	
27					0.0												
28					0.0												
29					0.0												
30					0.0												
31			33	SB-A4-MV60_29.5-33.5_03232022 @ 10:20	0.0			(30.0-33.5') SAND, fine to medium, subrounded; little silt, nonplastic, rapid dilatancy; well sorted; wet; loose; brown (10YR 5/3).	(0.0-35.0') Backfilled with bentonite								
32					0.0												
33					0.0												
34					0.0			(33.5-35.0') CLAY, medium plasticity, no dilatancy; little silt, low plasticity, no dilatancy; little sand, very fine to fine, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; stiff; grayish brown (10YR 5/2).									
35					0.0												
36						End of boring at 35.0' bgs.											
37																	
38																	
39																	
40																	
41																	

Remarks:

Soil Boring Log

Sheet: 1 of 1

Project Name: RACER Lansing Date Started: 09/07/2022 Logger: A. Westhuis
Project Number: 30112892 Date Completed: 09/07/2022 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 78° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.7') CONCRETE.		
2			60	SB-A4-MX60_1-3 _090722 @ 10:00	0.0		(0.7-6.0') SAND, medium, subrounded; little silt; trace granules, subrounded; well sorted; moist; dark yellowish brown (10YR 4/4).	(0.0-1.0') Concrete (1.0-2.0') Filter Pack Sand	
3					0.0				
4					0.0				
5					0.0				
6				SB-A4-MX60_4-6 _090722 @ 10:05	0.0				
7			48	SB-A4-MX60_6-8 _090722 @ 10:09	0.0		(6.0-8.5') CLAY, medium plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; moist; stiff; very dark gray (10YR 3/1).		
8					0.0				
9				SB-A4-MX60_8.5-10 _090722 @ 10:14	0.0		(8.5-10.0') SAND, medium, subrounded; little clay, low plasticity, no dilatancy; little silt; trace pebbles, small to medium, subrounded; trace granules, subrounded; poorly sorted; moist; dark yellowish brown (10YR 4/4).	(2.0-15.0') Bentonite Pellets	
10					0.0				
11				SB-A4-MX60_10-12 _090722 @ 10:19	0.0		(10.0-15.0') CLAY, medium plasticity, no dilatancy; little silt; trace sand, fine to medium, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; moist; stiff; very dark gray (10YR 3/1).		
12			44		0.0				
13					0.0				
14					0.0				
15					0.0				
16							End of boring at 15.0' bgs.		
17									
18									
19									
20									

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
Driller: Nick Wiseman Sampling Interval: Continuous
Drilling Method: Direct Push Water Level Start (ft. bgs.): NA
Drilling Fluid: None Water Level Finish (ft. btoc.): NA
Remarks: ' / ft = feet. bgs = below ground surface. Converted to Well: ☐ Yes ☒ No
Surface Elev.: NA
North Coor.:
East Coor.:

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 03/22/2022 Logger: A. Westhuis
Project Number: 30042872 Date Completed: 03/22/2022 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 25° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-1.0') CONCRETE.		
2			60		0.1		(1.0-5.0') SAND, very fine to fine, subrounded; trace silt, nonplastic, no dilatancy; well sorted; moist to wet; loose; yellowish brown (10YR 5/4).		
3					0.1				
4					0.1				
5					0.2				
6					0.0		(5.0-15.0') CLAY, low plasticity, no dilatancy; some sand, very fine to fine, subrounded; little silt, nonplastic, no dilatancy; trace pebbles, small, subrounded; trace granules, subrounded; dry to moist; stiff; dark grayish brown (10YR 4/2).		
7			46		0.0				
8					0.0				
9					0.0				
10					0.0				
11					0.0				
12			9		0.0				
13					0.0				
14					0.0				
15					0.0				
16					0.0		(15.0-21.0') CLAY, high plasticity, no dilatancy; little silt; little sand, very fine; trace pebbles, small, subrounded; trace granules, subrounded; moist; medium stiff; gray (10YR 5/1).		
17					0.0				
18			34		0.0				
19					0.0				
20					0.0				

(0.0-35.0')
Backfilled
with
bentonite

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
Driller: Nick Wiseman Sampling Interval: Continuous
Drilling Method: Direct Push Water Level Start (ft. bgs.): 4.0
Drilling Fluid: None Water Level Finish (ft. btoc.): NA
Remarks: ' / ft = feet. bgs = below ground surface. Step-out Converted to Well: ☐ Yes ☒ No
location east of MW-14-58R. VAP samples collected Surface Elev.: NA
from 18-22' bgs and 26-30' bgs. North Coor: _____
East Coor: _____

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 03/22/2022 Logger: A. Westhuis
Project Number: 30042872 Date Completed: 03/22/2022 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 25° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21				SB-A4-MY63_18-22_03222022 @ 13:25	0.0			(0.0-35.0') Backfilled with bentonite	
22			47		0.0		(21.0-22.0') SILT, nonplastic, slow dilatancy; some sand, very fine to fine, subrounded; little clay, nonplastic, slow dilatancy; well sorted; moist to wet; medium stiff; grayish brown (10YR 5/2).		
23					0.0		(22.0-26.0') CLAY, low plasticity to nonplastic, no dilatancy; little silt; little sand, very fine to fine, subrounded; trace pebbles, small to large, subrounded; trace granules, subrounded; moist; stiff; gray (10YR 5/1).		
24					0.0				
25					0.0				
26				SB-A4-MY63_26-30_03222022 @ 12:55	0.0				
27			42		0.0		(26.0-29.5') SAND, very fine to medium, subrounded; some silt, nonplastic, slow dilatancy; little clay; trace pebbles, small to large, subrounded; trace granules, subrounded; poorly sorted; moist to wet; dense; gray (10YR 5/1).		
28					0.0				
29					0.0				
30					0.0		(29.5-30.0') SAND, very fine to coarse, subangular to subrounded; trace granules, subrounded; trace silt, nonplastic, rapid dilatancy; poorly sorted; wet; loose; grayish brown (10YR 5/2).		
31					0.0				
32			40		0.0		(30.0-35.0') CLAY, high plasticity, no dilatancy; little silt; little sand, very fine; trace pebbles, small, subrounded; trace granules, subrounded; moist; medium stiff; gray (10YR 5/1).		
33					0.0				
34					0.0				
35					0.0				
36							End of boring at 35.0' bgs.		
37									
38									
39									
40									
41									

Remarks:

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 03/22/2022 Logger: A. Westhuis
Project Number: 30042872 Date Completed: 03/22/2022 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 25° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-1.0') CONCRETE.		
2			60		0.1		(1.0-6.0') SAND, very fine to fine, subrounded; trace silt, nonplastic, no dilatancy; well sorted; moist to wet; loose; yellowish brown (10YR 5/4).		
3					0.1				
4					0.1				
5					0.0				
6					0.0				
7			52		0.8		(6.0-12.0') CLAY, low plasticity, no dilatancy; some sand, very fine to fine, subrounded; little silt, nonplastic, no dilatancy; trace pebbles, small, subrounded; trace granules, subrounded; dry to moist; stiff; dark grayish brown (10YR 4/2).		
8					0.0				
9					0.0				
10					0.0				
11					0.0				
12					0.0				
13			36		0.0		(12.0-20.0') CLAY, high plasticity, no dilatancy; little silt; little sand, very fine; trace pebbles, small, subrounded; trace granules, subrounded; moist; medium stiff; gray (10YR 5/1).		
14					0.0				
15					0.0				
16					0.0				
17					0.0				
18			22		0.0				
19					0.0				
20					0.0				

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
Driller: Nick Wiseman Sampling Interval: Continuous
Drilling Method: Direct Push Water Level Start (ft. bgs.): NA
Drilling Fluid: None Water Level Finish (ft. btoc.): NA
Remarks: ' / ft = feet. bgs = below ground surface. Step-out Converted to Well: ☐ Yes ☒ No
location south of MW-14-58R. VAP samples Surface Elev.: NA
collected from 22-26' bgs and 30-34' bgs. North Coord: _____
East Coord: _____

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 03/22/2022 Logger: A. Westhuis
Project Number: 30042872 Date Completed: 03/22/2022 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 25° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0		(20.0-29.0') SILT, nonplastic, slow dilatancy; some sand, very fine to fine, subrounded; little clay, nonplastic, slow dilatancy; trace pebbles, small to medium, subrounded; trace granules, subrounded; poorly sorted; wet; medium stiff; grayish brown (10YR 5/2).		
22			30		0.0				
23					0.0				
24				SB-A4-NB60_22-26_03222022 @ 16:00	0.0				
25					0.0				
26					0.0				
27			35		0.0				
28					0.0				
29					0.0				
30					0.0		(29.0-30.0') CLAY, low plasticity, no dilatancy; little silt, nonplastic, no dilatancy; little sand, very fine to fine, subrounded; trace pebbles, small to large, subrounded; trace granules, subrounded; moist; stiff; gray (10YR 5/1).		
31					0.0		(30.0-34.0') SAND, fine to medium, subrounded; little silt, nonplastic, rapid dilatancy; well sorted; wet; loose; brown (10YR 5/3).		
32			34	SB-A4-NB60_30-34_03222022 @ 15:15	0.0				
33					0.0				
34					0.0				
35					0.0		(34.0-35.0') CLAY, medium plasticity, no dilatancy; little silt, low plasticity, no dilatancy; little sand, very fine to fine, subrounded; trace pebbles, small to medium, subrounded; trace granules, subrounded; dry to moist; stiff; grayish brown (10YR 5/2).		
36							End of boring at 35.0' bgs.		
37									
38									
39									
40									
41									

Remarks:

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 09/26/2023 Logger: A. Westhuis
Project Number: 30112892 Date Completed: 09/26/2023 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 70° F. Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-1.0') CONCRETE.		
2				VAP-P2-NL58_1-2 @ 1415	0.0		(1.0-4.5') SAND, fine, subrounded; trace silt; well sorted; dry to moist; brownish yellow (10YR 6/6).		
3			60		0.0				
4				VAP-P2-NL58_3.5-4.5 @ 1420	0.0				
5					0.0		(4.5-9.5') CLAY, medium to high plasticity, no dilatancy; little to trace silt; trace sand, fine, subrounded; trace granules, subrounded; trace pebbles, small to medium, subrounded; dry; stiff; dark grayish brown (10YR 4/2).		
6					0.0				
7			48	VAP-P2-NL58_7-8 @ 1425	0.0				
8					0.0				
9					0.0				
10					0.0		(9.5-20.0') CLAY, high plasticity, no dilatancy; trace silt; trace sand, very fine to medium, subrounded; trace granules, subrounded; trace pebbles, small to large, subrounded; dry to moist; medium stiff to stiff; grayish brown (10YR 5/2).		
11				VAP-P2-NL58_10-11 @ 1430 and	0.0				
12			54	VAP-P2-NL58_10-15 @ 1445	0.0		Note: Saturated sand seam, very fine to medium, subrounded; poorly sorted present at 11.5 ft bgs, 12.0 ft bgs, 13.5 ft bgs, and 14.0 ft bgs.		
13					0.0				
14					0.0				
15					0.0				
16					0.0				
17					0.0				
18			36		0.0				
19					0.0				
20					0.0				

(0.0-30.0')
Backfilled
with
Bentonite
and
Cuttings.
Capped
with
Concrete.

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
Driller: Nick Wiseman Sampling Interval: Continuous
Drilling Method: Direct Push Water Level Start (ft. bgs.): 11.5
Drilling Fluid: None Water Level Finish (ft. btoc.): NA
Remarks: ' / ft = feet. bgs = below ground surface. Hand augered to 5.0 ft bgs. Soil boring abandoned upon completion. Converted to Well: ☐ Yes ☒ No
Surface Elev.: NA
North Coor: _____
East Coor: _____

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 09/26/2023 Logger: A. Westhuis
 Project Number: 30112892 Date Completed: 09/26/2023 Editor: C. Cisco
 Project Location: Lansing, MI Weather Conditions: 70° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			42	VAP-P2-NL58_21-24.5 @ 1600 (and DUP-01)	0.0		(20.0-24.5') SAND, very fine to fine, subrounded; little to trace silt; well sorted; wet; grayish brown (10YR 5/2).	(0.0-30.0') Backfilled with Bentonite and Cuttings. Capped with Concrete.	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26			42		0.0		(24.5-30.0') CLAY, high plasticity, no dilatancy; little to trace silt; trace to little sand, very fine to fine, subrounded; trace granules, subrounded; trace pebbles, small to medium, subrounded; moist; medium stiff; grayish brown (10YR 5/2).	(0.0-30.0') Backfilled with Bentonite and Cuttings. Capped with Concrete.	
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31							End of boring at 30.0' bgs.		
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: _____

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 09/26/2023 Logger: A. Westhuis
Project Number: 30112892 Date Completed: 09/26/2023 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 70° F. Cloudy, Light Rain

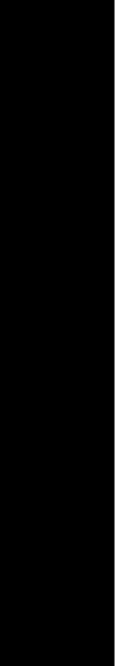
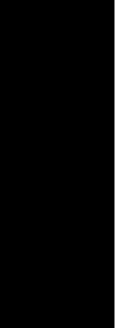
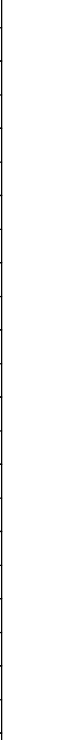
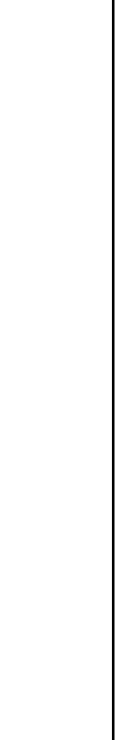
Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-1.0') CONCRETE.		
2				VAP-P2-NP59_1-2 @ 1640	0.0		(1.0-4.0') SAND, fine, subrounded; trace silt; well sorted; dry to moist; brownish yellow (10YR 6/6).		
3			60		0.0				
4				VAP-P2-NP59_3-4 @ 1645 (and MS/MSD)	0.0				
5					0.0		(4.0-10.0') CLAY, medium to high plasticity, no dilatancy; little to trace silt; trace sand, fine, subrounded; trace granules, subrounded; trace pebbles, small to medium, subrounded; dry to moist; stiff; dark grayish brown (10YR 4/2).		
6				VAP-P2-NP59_6-7 @ 1650	0.0				
7			54		0.0				
8					0.0				
9				VAP-P2-NP59_9-10 @ 1655 (and DUP-02)	0.0				
10					0.0			(0.0-30.0') Backfilled with Bentonite and Cuttings. Capped with Concrete.	
11				VAP-P2-NP59_10-15 @ 1710 (and MS/MSD)	0.0		(10.0-13.0') CLAY, high plasticity, no dilatancy; trace silt; trace sand, very fine to medium, subrounded; trace granules, subrounded; trace pebbles, small to large, subrounded; dry to moist; stiff; grayish brown (10YR 5/2). Note: Sand seam, very fine to fine, subrounded; well sorted; wet present at 10.0 ft bgs.		
12			54		0.0				
13					0.0		(13.0-14.0') SAND, very fine to fine, subrounded; trace silt; well sorted; wet; brown (10YR 4/3).		
14					0.0				
15					0.0		(14.0-20.0') CLAY, medium plasticity, no dilatancy; trace silt; trace sand, very fine to fine, subrounded; trace granules, subrounded; trace pebbles, small to large, subrounded; moist; stiff; grayish brown (10YR 5/2).		
16					0.0				
17					0.0				
18			48		0.0				
19					0.0				
20					0.0				

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
Driller: Nick Wiseman Sampling Interval: Continuous
Drilling Method: Direct Push Water Level Start (ft. bgs.): 10
Drilling Fluid: None Water Level Finish (ft. btoc.): NA
Remarks: ' / ft = feet. bgs = below ground surface. Hand augered to 5.0 ft bgs. Soil boring abandoned upon completion. Converted to Well: ☐ Yes ☒ No
Surface Elev.: NA
North Coord.:
East Coord.:

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 09/26/2023 Logger: A. Westhuis
Project Number: 30112892 Date Completed: 09/26/2023 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 70° F, Cloudy, Light Rain

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			48	VAP-P2-NP59_20-23.5 @ 1600	0.0		(20.0-22.0') SAND, very fine to fine, subrounded; trace silt; well sorted; wet; brown (10YR 5/3).	(0.0-30.0') Backfilled with Bentonite and Cuttings. Capped with Concrete.	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26			42		0.0		(22.0-28.0') CLAY, high plasticity, no dilatancy; little to trace silt; little to trace sand, very fine to fine, subrounded; trace granules, subrounded; trace pebbles, small, subrounded; moist; medium stiff; grayish brown (10YR 5/2).	(0.0-30.0') Backfilled with Bentonite and Cuttings. Capped with Concrete.	
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31							End of boring at 30.0' bgs.		
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: _____

Soil Boring Log

Sheet: 1 of 2

Project Name: RACER Lansing Date Started: 09/27/2023 Logger: A. Westhuis
Project Number: 30112892 Date Completed: 09/27/2023 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 65° F. Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1				VAP-P2-NT58_1-2 @ 0915	0.0		(0.0-1.0') CONCRETE.		
2			60	VAP-P2-NT58_3-4 @ 0920	0.0		(1.0-4.0') SAND, very fine to fine, subrounded; little silt; trace granules, subrounded; well sorted; dry to moist; brownish yellow (10YR 6/6).		
3					0.0				
4					0.0				
5					0.0		(4.0-8.0') CLAY, medium plasticity, no dilatancy; little to trace silt; trace sand, fine, subrounded; trace granules, subrounded; trace pebbles, small, subrounded; dry to moist; stiff; dark grayish brown (10YR 4/2).		
6			48	VAP-P2-NT58_6-7 @ 0925	0.0				
7					0.0				
8					0.0				
9				VAP-P2-NT58_9-10 @ 0930	0.0		(8.0-10.0') SAND, very fine to fine, subrounded; trace silt; well sorted; dry to moist; light yellowish brown (10YR 6/4).		
10					0.0				
11			36	VAP-P2-NT58_10-15 @ 0935	0.0		(10.0-15.0') SAND, very fine to fine, subrounded; little to trace sand, medium, subrounded; trace silt; well sorted; wet; brown (10YR 5/3).		
12					0.0				
13					0.0				
14					0.0				
15					0.0				
16			24	VAP-P2-NT58_18-21.5 @ 1045	0.0		(15.0-21.5') SAND, very fine to medium, subangular; trace sand, medium to coarse, subrounded; little to trace silt; poorly sorted; wet; dark grayish brown (10YR 4/2).		
17					0.0				
18					0.0				
19					0.0				
20					0.0				

(0.0-35.0') Backfilled with Bentonite and Cuttings. Capped with Concrete.

Drilling Co.: Fibertec Environmental Services Sampling Method: 5.0' Macro Core
Driller: Nick Wiseman Sampling Interval: Continuous
Drilling Method: Direct Push Water Level Start (ft. bgs.): 10
Drilling Fluid: None Water Level Finish (ft. btoc.): NA
Remarks: ' / ft = feet. bgs = below ground surface. Hand augered to 5.0 ft bgs. Soil boring abandoned upon completion. Converted to Well: ☐ Yes ☒ No
Surface Elev.: NA
North Coord.:
East Coord.:

Soil Boring Log

Sheet: 2 of 2

Project Name: RACER Lansing Date Started: 09/27/2023 Logger: A. Westhuis
Project Number: 30112892 Date Completed: 09/27/2023 Editor: C. Cisco
Project Location: Lansing, MI Weather Conditions: 65° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0		(15.0-21.5') SAND, very fine to medium, subangular; trace sand, medium to coarse, subrounded; little to trace silt; poorly sorted; wet; dark grayish brown (10YR 4/2).		
22			42		0.0		(21.5-30.0') CLAY, medium plasticity, no dilatancy; some silt; little sand, very fine to fine, subrounded; trace granules, subrounded; trace pebbles, small to large, subrounded; moist; stiff; gray (10YR 5/1).		
23					0.0				
24					0.0				
25					0.0				
26					0.0				
27			48		0.0		Note: Small sand seam present at 27.5 ft bgs.	(0.0-35.0') Backfilled with Bentonite and Cuttings. Capped with Concrete.	
28					0.0				
29					0.0				
30					0.0				
31					0.0		(30.0-35.0') SAND, very fine; some silt; well sorted; dry; light gray (10YR 7/1).		
32					0.0				
33			48		0.0				
34					0.0				
35					0.0				
36							End of boring at 35.0' bgs.		
37									
38									
39									
40									
41									

Remarks: _____

Attachment 2

Analytical Reports



Analytical Laboratory Report

Report ID: S32761.01(01)+QC01
Generated on 02/14/2022

Report to

Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 C:947-777-5215 FAX:
Email: Kaitlyn.Hunt@arcadis.com

Additional Contacts: Alex Villhauer, Marina Samp, Tiffany Linder, Patrick Curry

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): S32761.01
Project: 30112892.47A / RACER Lansing
Collected Date(s): 02/10/2022
Submitted Date/Time: 02/10/2022 12:00
Sampled by: Unknown
P.O. #: 30112892.47A

Table of Contents

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Report Narrative (Page 2)
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Qualifier Descriptions (Page 3)
Glossary of Abbreviations (Page 3)
Method Summary (Page 4)
Sample Summary (Page 5)
QC Report (Pages 7-13)

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).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

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.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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
N/A	Not Applicable
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (1 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S32761.01	MW-14-58R_021022	Groundwater	02/10/22 11:20



Analytical Laboratory Report

Lab Sample ID: S32761.01
Sample Tag: MW-14-58R_021022
Collected Date/Time: 02/10/2022 11:20
Matrix: Groundwater
COC Reference: 141667

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	6.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/11/22 15:30	BML	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/11/22 14:18, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	520	10		ug/L	10	123-91-1	Y

Y-Elevated reporting limit due to high target concentration



Quality Control Report

Report ID: S32761.01(01)+QC01
Generated on 02/14/2022

Report to

Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

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

Phone: O:248-809-4013 C:947-777-5215 FAX:

Report Summary

Lab Sample ID(s): S32761.01
Project: 30112892.47A / RACER Lansing
Submitted Date/Time: 02/10/2022 12:00
Sampled by: Unknown
P.O. #: 30112892.47A

QC Report Sections

Cover Page (Page 7)
Analysis Summary (Page 8)
Prep Batch Summary (Page 9)
Surrogates per QC Sample (Page 10)
Internal Standards per Lab Sample (Page 11)
Internal Standards per QC Sample (Page 12)
Batch QC Results (Page 13)

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: S32761.01

Sample Tag: MW-14-58R_021022

Collected Date/Time: 02/10/2022 11:20

Matrix: Groundwater

COC Reference: 141667

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/11/22 14:18	220211A9	VS220211W1	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VS220211W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S32761.01	1,4-Dioxane	SW8260B - SIM	02/11/22 14:18	220211A9

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS220211W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220211A9.BLKW11A

Run in Batch: 220211A9, Run Date: 02/11/2022 13:37, Prep Date: 02/11/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample (LCS)

Lab Sample ID: 220211A9.LCSW11A

Run in Batch: 220211A9, Run Date: 02/11/2022 11:56, Prep Date: 02/11/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220211A9.LCSDW11A, Parent Sample ID: 220211A9.LCSW11A

Run in Batch: 220211A9, Run Date: 02/11/2022 12:16, Prep Date: 02/11/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S32761.01

Sample Tag: MW-14-58R_021022

Collected Date/Time: 02/10/2022 11:20

Matrix: Groundwater

COC Reference: 141667

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 220211A9, Run Date: 02/11/2022 14:18, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		88.4	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS220211W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220211A9.BLKW11A

Run in Batch: 220211A9, Run Date: 02/11/2022 13:37, Prep Date: 02/11/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		88.0	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 220211A9.LCSW11A

Run in Batch: 220211A9, Run Date: 02/11/2022 11:56, Prep Date: 02/11/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		102.6	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220211A9.LCSDW11A, Parent Sample ID: 220211A9.LCSW11A

Run in Batch: 220211A9, Run Date: 02/11/2022 12:16, Prep Date: 02/11/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		99.0	50.0	200.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS220211W1

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

Blank (BLK)

Lab Sample ID: 220211A9.BLKW11A

Run in Batch: 220211A9, Run Date: 02/11/2022 13:37, Prep Date: 02/11/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.88	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 220211A9.LCSW11A

Run in Batch: 220211A9, Run Date: 02/11/2022 11:56, Prep Date: 02/11/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		91.8	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220211A9.LCSDW11A, Parent Sample ID: 220211A9.LCSW11A

Run in Batch: 220211A9, Run Date: 02/11/2022 12:16, Prep Date: 02/11/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		94.7	70.0	130.0	3.1	30.0

Merit Laboratories Login Checklist

Lab Set ID:S32761

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30112892.47A / RACER Lansing

Submitted:02/10/2022 12:00 Login User: MMC

Attention: Kaitlyn Hunt

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 FAX:

Email: Kaitlyn.Hunt@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 6.0
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____

REPORT TO

CONTACT NAME Tiffany Linder			
COMPANY Arcadis			
ADDRESS 28550 Cabot Drive, Suite 500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 810-225-1928		FAX NO. _____	P.O. NO.
E-MAIL ADDRESS Tiffany.Linder@arcadis.com			QUOTE NO.

CHAIN OF CUSTODY RECORD

Plant 2

INVOICE TO

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME 30112892.47A / RACER Lansing	SAMPLER(S) - PLEASE PRINT/SIGN NAME
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____	
DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____	

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

Containers & Preservatives

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☒ Other MI

Special Instructions

[illegible]

RELINQUISHED BY:	<i>Amel M. Al-Arabi</i>	☒ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			2/10/22	1200
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION	<i>Merit Drop Box</i>		2/10/22	1200
RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				

RELINQUISHED BY:			DATE		TIME	
SIGNATURE/ORGANIZATION <i>merit Drop Box</i>			2/10/22		1200	
RECEIVED BY:			DATE		TIME	
SIGNATURE/ORGANIZATION <i>M. Pineda</i>			2/10/22		1200	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL <u>6.0</u>		
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS				

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

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

* Please also email results to: Patrick.Curry@arcadis.com and Alex.Villhauer@arcadis.com



Analytical Laboratory Report

Report ID: S34187.01(01)
Generated on 03/31/2022

Report to

Attention: Tiffany Linder
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-994-2272 FAX:
Email: tiffany.linder@arcadis.com

Additional Contacts: Alex Villhauer, Caitlin Cisco

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): S34187.01-S34187.11
Project: 30075941.04100 / RACER Lansing
Collected Date(s): 03/22/2022 - 03/23/2022
Submitted Date/Time: 03/23/2022 15:45
Sampled by: Austin Westhuis
P.O. #: 30075941.04100

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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).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

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.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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
N/A	Not Applicable
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (11 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S34187.01	SB-A4-MY63_26-30	Groundwater	03/22/22 12:55
S34187.02	SB-A4-MY63_18-22	Groundwater	03/22/22 13:25
S34187.03	SB-A4-NB60_30-34	Groundwater	03/22/22 15:15
S34187.04	SB-A4-NB60_22-26	Groundwater	03/22/22 16:00
S34187.05	SB-A4-MV60_29.5-33.5	Groundwater	03/23/22 10:20
S34187.06	SB-A4-MV60_21-25	Groundwater	03/23/22 11:00
S34187.07	SB-A4-MY55_25.5-29.5	Groundwater	03/23/22 13:15
S34187.08	SB-A4-MY55_25.5-29.5 MS	Groundwater	03/23/22 13:15
S34187.09	SB-A4-MY55_25.5-29.5 MSD	Groundwater	03/23/22 13:15
S34187.10	SB-A4-MY55_15-19	Groundwater	03/23/22 14:40
S34187.11	Dup-01	Groundwater	03/23/22 00:01



Analytical Laboratory Report

Lab Sample ID: S34187.01
Sample Tag: SB-A4-MY63_26-30
Collected Date/Time: 03/22/2022 12:55
Matrix: Groundwater
COC Reference: 140688

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/31/22 11:45	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 03/30/22 18:15, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	100	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S34187.02

Sample Tag: SB-A4-MY63_18-22

Collected Date/Time: 03/22/2022 13:25

Matrix: Groundwater

COC Reference: 140688

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/31/22 11:45	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 03/30/22 19:57, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	51	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S34187.03
Sample Tag: SB-A4-NB60_30-34
Collected Date/Time: 03/22/2022 15:15
Matrix: Groundwater
COC Reference: 140688

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/31/22 11:45	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 03/30/22 19:36, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	191	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S34187.04

Sample Tag: SB-A4-NB60_22-26

Collected Date/Time: 03/22/2022 16:00

Matrix: Groundwater

COC Reference: 140688

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	>2	N/A	03/31/22 11:45	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 03/30/22 20:19, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	18	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S34187.05
Sample Tag: SB-A4-MV60_29.5-33.5
Collected Date/Time: 03/23/2022 10:20
Matrix: Groundwater
COC Reference: 140688

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	>2	N/A	03/31/22 11:45	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 03/31/22 11:32, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	32	1		ug/L	1	123-91-1	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S34187.06
Sample Tag: SB-A4-MV60_21-25
Collected Date/Time: 03/23/2022 11:00
Matrix: Groundwater
COC Reference: 140688

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/31/22 11:45	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 03/30/22 21:03, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	13	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S34187.07
Sample Tag: SB-A4-MY55_25.5-29.5
Collected Date/Time: 03/23/2022 13:15
Matrix: Groundwater
COC Reference: 140688

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	>2	N/A	03/31/22 11:45	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 03/30/22 13:32, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	128	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S34187.08
Sample Tag: SB-A4-MY55_25.5-29.5 MS
Collected Date/Time: 03/23/2022 13:15
Matrix: Groundwater
COC Reference: 140688

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/31/22 11:45	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 03/30/22 12:09, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	192	1		ug/L	1	123-91-1	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S34187.09

Sample Tag: SB-A4-MY55_25.5-29.5 MSD

Collected Date/Time: 03/23/2022 13:15

Matrix: Groundwater

COC Reference: 140688

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/31/22 11:45	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 03/30/22 12:30, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	172	1		ug/L	1	123-91-1	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S34187.10
Sample Tag: SB-A4-MY55_15-19
Collected Date/Time: 03/23/2022 14:40
Matrix: Groundwater
COC Reference: 140688

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	03/31/22 11:45	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 03/30/22 21:25, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S34187.11
Sample Tag: Dup-01
Collected Date/Time: 03/23/2022 00:01
Matrix: Groundwater
COC Reference: 140688

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	>2	N/A	03/31/22 11:45	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 03/31/22 11:53, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	31	1		ug/L	1	123-91-1	Y

Y-Elevated reporting limit due to high target concentration

Merit Laboratories Login Checklist

Lab Set ID:S34187

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30075941.04100 / RACER Lansing

Submitted:03/23/2022 15:45 Login User: PFD

Attention: Tiffany Linder

Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-994-2272 FAX:

Email: tiffany.linder@arcadis.com

Selection	Description	Note
Sample Receiving		
01. ☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer #	IR 2.6
02. ☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun	
03. ☐ Yes ☒ No ☐ N/A	Samples shipped	
04. ☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box	
05. ☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody		
06. ☒ Yes ☐ No ☐ N/A	COC adequately filled out	
07. ☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab	
08. ☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC	
09. ☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:	
Preservation		
10. ☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation	
11. ☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)	
12. ☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions		
13. ☒ Yes ☐ No ☐ N/A	All bottles intact	
14. ☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used	
15. ☒ Yes ☐ No ☐ N/A	Merit bottles used	
16. ☒ Yes ☐ No ☐ N/A	Sufficient sample volume received	
17. ☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration	
18. ☒ Yes ☐ No ☐ N/A	Samples submitted within holding time	
19. ☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace	

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

Client Review By: _____ Date: _____



Quality Control Report

Report ID: QC-S34187-01
Generated on 04/04/2022

Report to

Attention: Tiffany Linder
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-994-2272 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): S34187.01-S34187.11
Project: 30075941.04100 / RACER Lansing
Submitted Date/Time: 03/23/2022 15:45
Sampled by: Austin Westhuis
P.O. #: 30075941.04100

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-12)
Prep Batch Summary (Page 13)
Surrogates per QC Sample (Pages 14-15)
Batch QC Results (Pages 16-17)

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: S34187.01

Sample Tag: SB-A4-MY63_26-30

Collected Date/Time: 03/22/2022 12:55

Matrix: Groundwater

COC Reference: 140688

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	03/30/22 18:15	220330A9	VS220330S2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S34187.02

Sample Tag: SB-A4-MY63_18-22

Collected Date/Time: 03/22/2022 13:25

Matrix: Groundwater

COC Reference: 140688

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	03/30/22 19:57	220330A9	VS220330S2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S34187.03

Sample Tag: SB-A4-NB60_30-34

Collected Date/Time: 03/22/2022 15:15

Matrix: Groundwater

COC Reference: 140688

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	03/30/22 19:36	220330A9	VS220330S2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S34187.04

Sample Tag: SB-A4-NB60_22-26

Collected Date/Time: 03/22/2022 16:00

Matrix: Groundwater

COC Reference: 140688

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	03/30/22 20:19	220330A9	VS220330S2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S34187.05

Sample Tag: SB-A4-MV60_29.5-33.5

Collected Date/Time: 03/23/2022 10:20

Matrix: Groundwater

COC Reference: 140688

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	03/31/22 11:32	220331A9	VS220331S2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S34187.06

Sample Tag: SB-A4-MV60_21-25

Collected Date/Time: 03/23/2022 11:00

Matrix: Groundwater

COC Reference: 140688

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	03/30/22 21:03	220330A9	VS220330S2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S34187.07

Sample Tag: SB-A4-MY55_25.5-29.5

Collected Date/Time: 03/23/2022 13:15

Matrix: Groundwater

COC Reference: 140688

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	03/30/22 13:32	220330A9	VS220330S2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S34187.08

Sample Tag: SB-A4-MY55_25.5-29.5 MS

Collected Date/Time: 03/23/2022 13:15

Matrix: Groundwater

COC Reference: 140688

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	03/30/22 12:09	220330A9	VS220330S2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S34187.09

Sample Tag: SB-A4-MY55_25.5-29.5 MSD

Collected Date/Time: 03/23/2022 13:15

Matrix: Groundwater

COC Reference: 140688

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	03/30/22 12:30	220330A9	VS220330S2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S34187.10

Sample Tag: SB-A4-MY55_15-19

Collected Date/Time: 03/23/2022 14:40

Matrix: Groundwater

COC Reference: 140688

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	03/30/22 21:25	220330A9	VS220330S2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S34187.11

Sample Tag: Dup-01

Collected Date/Time: 03/23/2022 00:01

Matrix: Groundwater

COC Reference: 140688

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	03/31/22 11:53	220331A9	VS220331S2	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VS220330S2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S34187.01	1,4-Dioxane	SW8260B - SIM	03/30/22 18:15	220330A9
S34187.02	1,4-Dioxane	SW8260B - SIM	03/30/22 19:57	220330A9
S34187.03	1,4-Dioxane	SW8260B - SIM	03/30/22 19:36	220330A9
S34187.04	1,4-Dioxane	SW8260B - SIM	03/30/22 20:19	220330A9
S34187.06	1,4-Dioxane	SW8260B - SIM	03/30/22 21:03	220330A9
S34187.07	1,4-Dioxane	SW8260B - SIM	03/30/22 13:32	220330A9
S34187.08	1,4-Dioxane	SW8260B - SIM	03/30/22 12:09	220330A9
S34187.09	1,4-Dioxane	SW8260B - SIM	03/30/22 12:30	220330A9
S34187.10	1,4-Dioxane	SW8260B - SIM	03/30/22 21:25	220330A9

Organics - Volatiles, Prep Batch ID: VS220331S2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S34187.05	1,4-Dioxane	SW8260B - SIM	03/31/22 11:32	220331A9
S34187.11	1,4-Dioxane	SW8260B - SIM	03/31/22 11:53	220331A9

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS220330S2

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

Blank (BLK)

Lab Sample ID: 220330A9.BLKS30A

Run in Batch: 220330A9, Run Date: 03/30/2022 13:11, Prep Date: 03/30/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 220330A9.LCSS30A

Run in Batch: 220330A9, Run Date: 03/30/2022 11:28, Prep Date: 03/30/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220330A9.LCSDS30A, Parent Sample ID: 220330A9.LCSS30A

Run in Batch: 220330A9, Run Date: 03/30/2022 11:49, Prep Date: 03/30/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Matrix Spike (MS)

Lab Sample ID: 220330A9.3418708M, Parent Sample ID: S34187.07

Run in Batch: 220330A9, Run Date: 03/30/2022 12:09, Prep Date: 03/30/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Matrix Spike Duplicate (MSD)

Lab Sample ID: 220330A9.3418709N, Parent Sample ID: 220330A9.3418708M

Run in Batch: 220330A9, Run Date: 03/30/2022 12:30, Prep Date: 03/30/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS220331S2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220331A9.BLKS31A

Run in Batch: 220331A9, Run Date: 03/31/2022 11:12, Prep Date: 03/31/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 220331A9.LCSS31A

Run in Batch: 220331A9, Run Date: 03/31/2022 10:10, Prep Date: 03/31/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220331A9.LCSDS31A, Parent Sample ID: 220331A9.LCSS31A

Run in Batch: 220331A9, Run Date: 03/31/2022 10:31, Prep Date: 03/31/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS220330S2

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

Blank (BLK)

Lab Sample ID: 220330A9.BLKS30A

Run in Batch: 220330A9, Run Date: 03/30/2022 13:11, Prep Date: 03/30/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.51	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 220330A9.LCSS30A

Run in Batch: 220330A9, Run Date: 03/30/2022 11:28, Prep Date: 03/30/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		95.0	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220330A9.LCSDS30A, Parent Sample ID: 220330A9.LCSS30A

Run in Batch: 220330A9, Run Date: 03/30/2022 11:49, Prep Date: 03/30/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		97.8	70.0	130.0	2.9	30.0

Matrix Spike (MS)

Lab Sample ID: 220330A9.3418708M, Parent Sample ID: S34187.07

Run in Batch: 220330A9, Run Date: 03/30/2022 12:09, Prep Date: 03/30/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		127.9	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 220330A9.3418709N, Parent Sample ID: 220330A9.3418708M

Run in Batch: 220330A9, Run Date: 03/30/2022 12:30, Prep Date: 03/30/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		89.4	70.0	130.0	10.6	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS220331S2

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

Blank (BLK)

Lab Sample ID: 220331A9.BLKS31A

Run in Batch: 220331A9, Run Date: 03/31/2022 11:12, Prep Date: 03/31/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.57	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 220331A9.LCSS31A

Run in Batch: 220331A9, Run Date: 03/31/2022 10:10, Prep Date: 03/31/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		85.3	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220331A9.LCSDS31A, Parent Sample ID: 220331A9.LCSS31A

Run in Batch: 220331A9, Run Date: 03/31/2022 10:31, Prep Date: 03/31/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		86.3	70.0	130.0	1.1	30.0

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Tiffany Linder			
COMPANY Arcadis			
ADDRESS 28550 Cabot Avenue, Suite 500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 810-225-1928		FAX NO. _____	P.O. NO.
E-MAIL ADDRESS Tiffany.Linder@arcadis.com			QUOTE NO.

CONTACT NAME		~~XS~~ SAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.		E-MAIL ADDRESS	

PROJECT NO./NAME <u>30075941.04100 / RACER Lansing</u>	SAMPLER(S) - PLEASE PRINT/SIGN NAME <u>Austin Westhuis / an CW-C</u>
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____	
DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____	

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

Containers & Preservatives

Certifications

☐ OHIO VAP ☐ Drinking Water☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☒ Other MI

Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG. IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES
	DATE	TIME			
3418701	3/22/22	1255	SB-A4-MX63-26-30	GW	3
.02	3/22/22	1325	SB-A4-MY63-18-22	GW	3
.03	3/22/22	1515	SB-A4-NB60-30-34	GW	3
.04	3/22/22	1600	SB-A4-NB60-22-26	GW	3
.05	3/23/22	1020	SB-A4-MV60-29.5-33.5	GW	3
.06	3/23/22	1100	SB-A4-MY60-21-25	GW	3
07.08.09	3/23/22	1315	SB-A4-MY55-25.5-29.5	GW	9
.10.08	3/23/22	1440	SB-A4-MY55-15-19	GW	3
.11.08	3/23/22	—	Dup-01	GW	3

CWC		# Containers & Preservatives		1,4-Dioxane 8260-5		Certifications	
NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
3						X	Project Locations ☐ Detroit ☐ New York ☒ Other <u>MI</u> Special Instructions
3						X	
3						X	
3						X	
3						X	
3						X	
9						X	
3						X	
3						X	ms/msd

RELINQUISHED BY:	<i>Ant Wink / Arcadis</i>	~~AS~~ Sampler	DATE	TIME
SIGNATURE/ORGANIZATION			3/23/22	1545
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION	<i>Merit Lamp Box</i>		3/23/22	1545
RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				

RELINQUISHED BY: SIGNATURE/ORGANIZATION		Merit Drop Box		DATE 3/23/22	TIME 1545
RECEIVED BY: SIGNATURE/ORGANIZATION		M. Calcaterra		DATE 3/23/22	TIME 1545
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL _____	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		2.6	

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



Analytical Laboratory Report

Report ID: S34620.01(01)
Generated on 04/19/2022

Report to
Attention: Tiffany Linder
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-994-2272 FAX:
Email: tiffany.linder@arcadis.com

Additional Contacts: Alex Villhauer, Caitlin Cisco, Patrick Curry

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Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary
Lab Sample ID(s): S34620.01-S34620.02
Project: 30075941.04100 / RACER Lansing
Collected Date(s): 04/06/2022
Submitted Date/Time: 04/06/2022 13:45
Sampled by: Austin Westhuis
P.O. #: 30075941.04100

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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).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein, acrylonitrile, and 2-chlorovinylethyl ether 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.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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
N/A	Not Applicable
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S34620.01	MW-22-153_040622	Groundwater	04/06/22 11:45
S34620.02	MW-14-58R_040622	Groundwater	04/06/22 12:20



Analytical Laboratory Report

Lab Sample ID: S34620.01

Sample Tag: MW-22-153_040622

Collected Date/Time: 04/06/2022 11:45

Matrix: Groundwater

COC Reference: 139926

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/22 09:30	BML	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 04/18/22 12:49, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	92	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/22 13:20, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S34620.01 (continued)

Sample Tag: MW-22-153_040622

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/22 13:20, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S34620.02

Sample Tag: MW-14-58R_040622

Collected Date/Time: 04/06/2022 12:20

Matrix: Groundwater

COC Reference: 139926

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	04/08/22 09:30	BML	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 04/18/22 16:37, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	410	10		ug/L	10	123-91-1	Y

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/22 13:40, Analyst: KAG

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

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S34620.02 (continued)

Sample Tag: MW-14-58R_040622

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 04/07/22 13:40, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S34620

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30075941.04100 / RACER Lansing

Submitted:04/06/2022 13:45 Login User: MMC

Attention: Tiffany Linder

Address: Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 248-994-2272 FAX:

Email: tiffany.linder@arcadis.com

Selection	Description	Note
Sample Receiving		
01. ☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer #	IR 2.4
02. ☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun	
03. ☐ Yes ☒ No ☐ N/A	Samples shipped	
04. ☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box	
05. ☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody		
06. ☒ Yes ☐ No ☐ N/A	COC adequately filled out	
07. ☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab	
08. ☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC	
09. ☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:	
Preservation		
10. ☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation	
11. ☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)	
12. ☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions		
13. ☒ Yes ☐ No ☐ N/A	All bottles intact	
14. ☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used	
15. ☒ Yes ☐ No ☐ N/A	Merit bottles used	
16. ☒ Yes ☐ No ☐ N/A	Sufficient sample volume received	
17. ☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration	
18. ☒ Yes ☐ No ☐ N/A	Samples submitted within holding time	
19. ☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace	

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

Client Review By: _____ Date: _____

**INVOICE TO**

CONTACT NAME		~~X~~ SAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.		E-MAIL ADDRESS	

Special Instructions

VOCs 8260 (Full Scan)
1,4-Dioxane
8260 SIMS

RELINQUISHED BY:		SIGNATURE/ORGANIZATION		DATE		TIME	
		<i>Wesley Merit Drop Box</i>		4/6/22		1345	
RECEIVED BY:		SIGNATURE/ORGANIZATION		DATE		TIME	
		<i>M. Clark</i>		4/6/22		1345	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL			
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	2.4				

Rev 518 12



Quality Control Report

Report ID: QC-S34620-01
Generated on 04/19/2022

Report to

Attention: Tiffany Linder
Arcadis US, Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

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

Phone: 248-994-2272 FAX:

Report Summary

Lab Sample ID(s): S34620.01-S34620.02
Project: 30075941.04100 / RACER Lansing
Submitted Date/Time: 04/06/2022 13:45
Sampled by: Austin Westhuis
P.O. #: 30075941.04100

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-3)
Prep Batch Summary (Page 4)
Surrogates per Lab Sample (Pages 5-6)
Surrogates per QC Sample (Pages 7-8)
Batch QC Results (Pages 9-14)

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: S34620.01

Sample Tag: MW-22-153_040622

Collected Date/Time: 04/06/2022 11:45

Matrix: Groundwater

COC Reference: 139926

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	04/18/22 12:49	220418A9	VS220418W2	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	04/07/22 13:20	220407A9	VF220407W2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S34620.02

Sample Tag: MW-14-58R_040622

Collected Date/Time: 04/06/2022 12:20

Matrix: Groundwater

COC Reference: 139926

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	04/18/22 16:37	220418A9	VS220418W2	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	04/07/22 13:40	220407A9	VF220407W2	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF220407W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S34620.01	Volatile Organics - DEQ List	SW5030C/8260C	04/07/22 13:20	220407A9
S34620.02	Volatile Organics - DEQ List	SW5030C/8260C	04/07/22 13:40	220407A9

Organics - Volatiles, Prep Batch ID: VS220418W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S34620.01	1,4-Dioxane	SW8260B - SIM	04/18/22 12:49	220418A9
S34620.02	1,4-Dioxane	SW8260B - SIM	04/18/22 16:37	220418A9

QC Report - Surrogates per Lab Sample

Lab Sample ID: S34620.01

Sample Tag: MW-22-153_040622

Collected Date/Time: 04/06/2022 11:45

Matrix: Groundwater

COC Reference: 139926

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 220407A9, Run Date: 04/07/2022 13:20, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		96.5	80.0	124.0
1,2-Dichloroethane-D4		112.5	72.0	125.0
Toluene-D8		106.6	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S34620.02

Sample Tag: MW-14-58R_040622

Collected Date/Time: 04/06/2022 12:20

Matrix: Groundwater

COC Reference: 139926

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 220407A9, Run Date: 04/07/2022 13:40, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.8	80.0	124.0
1,2-Dichloroethane-D4		115.3	72.0	125.0
Toluene-D8		106.2	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF220407W2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220407A9.BLKW07A

Run in Batch: 220407A9, Run Date: 04/07/2022 12:26, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.3	80.0	124.0
1,2-Dichloroethane-D4		111.5	72.0	125.0
Toluene-D8		106.3	89.0	112.0

Blank (BLK)

Lab Sample ID: 220407B9.BLKW07A

Run in Batch: 220407B9, Run Date: 04/07/2022 12:26, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
Toluene-D8		98.6	86.0	118.0

Laboratory Control Sample (LCS)

Lab Sample ID: 220407A9.LCSW07A

Run in Batch: 220407A9, Run Date: 04/07/2022 10:49, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		113.3	80.0	124.0
1,2-Dichloroethane-D4		100.4	72.0	125.0
Toluene-D8		99.6	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 220407B9.LCSG07A

Run in Batch: 220407B9, Run Date: 04/07/2022 11:47, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
Toluene-D8		98.6	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220407A9.LCSDW07A, Parent Sample ID: 220407A9.LCSW07A

Run in Batch: 220407A9, Run Date: 04/07/2022 11:09, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		114.8	80.0	124.0
1,2-Dichloroethane-D4		99.5	72.0	125.0
Toluene-D8		97.2	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220407B9.LCSDG07A, Parent Sample ID: 220407B9.LCSG07A

Run in Batch: 220407B9, Run Date: 04/07/2022 12:06, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
Toluene-D8		100.0	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS220418W2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220418A9.BLKW18A

Run in Batch: 220418A9, Run Date: 04/18/2022 12:28, Prep Date: 04/18/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 220418A9.LCSW18A

Run in Batch: 220418A9, Run Date: 04/18/2022 11:25, Prep Date: 04/18/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220418A9.LCSDW18A, Parent Sample ID: 220418A9.LCSW18A

Run in Batch: 220418A9, Run Date: 04/18/2022 11:46, Prep Date: 04/18/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF220407W2

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

Blank (BLK)

Lab Sample ID: 220407A9.BLKW07A

Run in Batch: 220407A9, Run Date: 04/07/2022 12:26, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

Organics - Volatiles, Prep Batch ID: VF220407W2 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 220407A9.BLKW07A

Run in Batch: 220407A9, Run Date: 04/07/2022 12:26, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 220407A9.LCSW07A

Run in Batch: 220407A9, Run Date: 04/07/2022 10:49, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		87.2	67.4	121.2
Acetone		82.6	29.9	161.5
Methyl iodide		95.1	68.8	116.4
Carbon disulfide		104.6	63.8	137.4
tert-Methyl butyl ether (MTBE)		94.7	73.2	122.4
Acrylonitrile		97.8	69.9	128.9
2-Butanone (MEK)		100.4	44.0	134.4
Dichlorodifluoromethane		80.0	10.0	222.8
Chloromethane		77.1	23.8	166.5
Vinyl chloride		83.7	43.5	149.1
Bromomethane		73.0	56.8	151.3
Chloroethane		76.7	53.4	149.4
Trichlorofluoromethane		78.7	59.7	151.8
1,1-Dichloroethene		92.4	69.6	139.4
Methylene chloride		95.1	73.3	121.1
trans-1,2-Dichloroethene		100.1	73.6	129.3
1,1-Dichloroethane		97.3	71.5	126.2
cis-1,2-Dichloroethene		101.2	76.6	122.1
Tetrahydrofuran		93.9	59.0	117.9
Chloroform		99.3	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF220407W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 220407A9.LCSW07A

Run in Batch: 220407A9, Run Date: 04/07/2022 10:49, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		101.2	78.2	120.8
1,1,1-Trichloroethane		98.7	79.4	130.9
4-Methyl-2-pentanone (MIBK)		99.2	71.6	125.2
2-Hexanone		95.7	55.4	136.9
Carbon tetrachloride		99.9	72.6	133.0
Benzene		98.9	79.9	124.9
1,2-Dichloroethane		93.3	76.0	126.3
Trichloroethene		103.6	79.7	124.2
1,2-Dichloropropane		94.8	78.6	126.4
Bromodichloromethane		101.8	80.4	128.2
Dibromomethane		103.7	76.9	122.1
cis-1,3-Dichloropropene		105.2	79.8	129.9
Toluene		96.9	79.8	124.5
trans-1,3-Dichloropropene		108.6	74.0	131.3
1,1,2-Trichloroethane		97.1	78.7	123.1
Tetrachloroethene		102.5	74.5	124.5
trans-1,4-Dichloro-2-butene	*	188.3	68.6	135.4
Dibromochloromethane	*	130.4	74.6	127.2
1,2-Dibromoethane		118.9	70.3	133.7
Chlorobenzene		114.2	79.2	122.7
1,1,1,2-Tetrachloroethane		117.2	80.3	128.2
Ethylbenzene		112.7	79.5	129.1
p,m-Xylene		113.5	79.4	132.2
o-Xylene		107.3	80.2	131.0
Styrene		112.9	69.5	126.7
Isopropylbenzene		113.3	74.4	121.5
Bromoform	*	136.9	69.4	128.0
1,1,2,2-Tetrachloroethane		113.4	79.8	126.3
1,2,3-Trichloropropane		119.4	78.3	138.8
n-Propylbenzene		114.2	82.0	130.7
Bromobenzene		121.6	78.7	124.6
1,3,5-Trimethylbenzene		114.9	81.3	128.9
tert-Butylbenzene		107.8	80.7	128.9
1,2,4-Trimethylbenzene		113.7	81.4	130.8
sec-Butylbenzene		112.9	77.4	129.8
p-Isopropyltoluene		113.7	79.8	137.5
1,3-Dichlorobenzene		116.1	77.0	131.3
1,4-Dichlorobenzene		115.0	20.7	137.7
1,2-Dichlorobenzene		116.6	10.0	166.2
1,2,3-Trimethylbenzene		108.0	76.3	124.2
n-Butylbenzene		111.0	80.0	133.3
Hexachloroethane		125.9	23.8	138.1
1,2-Dibromo-3-chloropropane		133.3	21.2	189.4
1,2,4-Trichlorobenzene		122.7	27.4	143.4
1,2,3-Trichlorobenzene		118.2	75.4	131.4
Naphthalene		118.6	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF220407W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 220407A9.LCSW07A

Run in Batch: 220407A9, Run Date: 04/07/2022 10:49, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		112.6	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220407A9.LCSDW07A, Parent Sample ID: 220407A9.LCSW07A

Run in Batch: 220407A9, Run Date: 04/07/2022 11:09, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		83.8	67.4	121.2	4.0	30.0
Acetone		73.6	29.9	161.5	11.5	30.0
Methyl iodide		95.2	68.8	116.4	0.0	30.0
Carbon disulfide		97.9	63.8	137.4	6.7	30.0
tert-Methyl butyl ether (MTBE)		91.2	73.2	122.4	3.8	30.0
Acrylonitrile		90.9	69.9	128.9	7.3	30.0
2-Butanone (MEK)		91.7	44.0	134.4	9.0	30.0
Dichlorodifluoromethane		73.6	10.0	222.8	8.3	30.0
Chloromethane		75.3	23.8	166.5	2.3	30.0
Vinyl chloride		79.2	43.5	149.1	5.6	30.0
Bromomethane		69.5	56.8	151.3	4.9	30.0
Chloroethane		73.0	53.4	149.4	4.9	30.0
Trichlorofluoromethane		73.7	59.7	151.8	6.6	30.0
1,1-Dichloroethene		88.2	69.6	139.4	4.6	30.0
Methylene chloride		94.4	73.3	121.1	0.8	30.0
trans-1,2-Dichloroethene		94.0	73.6	129.3	6.3	30.0
1,1-Dichloroethane		93.1	71.5	126.2	4.4	30.0
cis-1,2-Dichloroethene		97.7	76.6	122.1	3.5	30.0
Tetrahydrofuran		80.8	59.0	117.9	14.9	30.0
Chloroform		94.6	78.4	124.0	4.8	30.0
Bromochloromethane		99.5	78.2	120.8	1.7	30.0
1,1,1-Trichloroethane		92.9	79.4	130.9	6.0	30.0
4-Methyl-2-pentanone (MIBK)		86.8	71.6	125.2	13.3	30.0
2-Hexanone		87.3	55.4	136.9	9.1	30.0
Carbon tetrachloride		94.2	72.6	133.0	5.9	30.0
Benzene		93.7	79.9	124.9	5.4	30.0
1,2-Dichloroethane		86.9	76.0	126.3	7.2	30.0
Trichloroethene		96.6	79.7	124.2	7.0	30.0
1,2-Dichloropropane		89.3	78.6	126.4	6.0	30.0
Bromodichloromethane		96.0	80.4	128.2	5.8	30.0
Dibromomethane		102.5	76.9	122.1	1.1	30.0
cis-1,3-Dichloropropene		98.8	79.8	129.9	6.3	30.0
Toluene		88.7	79.8	124.5	8.8	30.0
trans-1,3-Dichloropropene		100.9	74.0	131.3	7.3	30.0
1,1,2-Trichloroethane		89.7	78.7	123.1	8.0	30.0
Tetrachloroethene		95.8	74.5	124.5	6.8	30.0
trans-1,4-Dichloro-2-butene	*	169.2	68.6	135.4	10.7	30.0
Dibromochloromethane	*	127.4	74.6	127.2	2.3	30.0
1,2-Dibromoethane		114.8	70.3	133.7	3.5	30.0
Chlorobenzene		109.0	79.2	122.7	4.6	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF220407W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 220407A9.LCSDW07A, Parent Sample ID: 220407A9.LCSW07A

Run in Batch: 220407A9, Run Date: 04/07/2022 11:09, Prep Date: 04/07/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		116.1	80.3	128.2	0.9	30.0
Ethylbenzene		106.8	79.5	129.1	5.3	30.0
p,m-Xylene		106.7	79.4	132.2	6.1	30.0
o-Xylene		101.1	80.2	131.0	5.9	30.0
Styrene		107.5	69.5	126.7	4.9	30.0
Isopropylbenzene		105.8	74.4	121.5	6.8	30.0
Bromoform	*	131.5	69.4	128.0	4.1	30.0
1,1,2,2-Tetrachloroethane		105.8	79.8	126.3	7.0	30.0
1,2,3-Trichloropropane		110.5	78.3	138.8	7.7	30.0
n-Propylbenzene		105.8	82.0	130.7	7.7	30.0
Bromobenzene		117.0	78.7	124.6	3.9	30.0
1,3,5-Trimethylbenzene		107.2	81.3	128.9	6.9	30.0
tert-Butylbenzene		100.1	80.7	128.9	7.4	30.0
1,2,4-Trimethylbenzene		108.4	81.4	130.8	4.8	30.0
sec-Butylbenzene		105.4	77.4	129.8	6.8	30.0
p-Isopropyltoluene		106.7	79.8	137.5	6.3	30.0
1,3-Dichlorobenzene		109.9	77.0	131.3	5.5	30.0
1,4-Dichlorobenzene		109.4	20.7	137.7	5.0	30.0
1,2-Dichlorobenzene		111.1	10.0	166.2	4.9	30.0
1,2,3-Trimethylbenzene		103.4	76.3	124.2	4.3	30.0
n-Butylbenzene		101.8	80.0	133.3	8.6	30.0
Hexachloroethane		119.9	23.8	138.1	4.9	30.0
1,2-Dibromo-3-chloropropane		121.8	21.2	189.4	9.0	30.0
1,2,4-Trichlorobenzene		120.6	27.4	143.4	1.7	30.0
1,2,3-Trichlorobenzene		117.6	75.4	131.4	0.5	30.0
Naphthalene		114.3	32.9	135.8	3.6	30.0
2-Methylnaphthalene		112.6	25.5	165.5	0.0	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS220418W2

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

Blank (BLK)

Lab Sample ID: 220418A9.BLKW18A

Run in Batch: 220418A9, Run Date: 04/18/2022 12:28, Prep Date: 04/18/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.30	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 220418A9.LCSW18A

Run in Batch: 220418A9, Run Date: 04/18/2022 11:25, Prep Date: 04/18/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		78.3	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220418A9.LCSDW18A, Parent Sample ID: 220418A9.LCSW18A

Run in Batch: 220418A9, Run Date: 04/18/2022 11:46, Prep Date: 04/18/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		79.1	70.0	130.0	1.1	30.0



Analytical Laboratory Report

Report ID: S40011.01(01)+QC01
Generated on 09/14/2022

Report to

Attention: Kaitlyn Hunt
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Report Summary

Lab Sample ID(s): S40011.01-S40011.06
Project: 30112892.04100 / RACER Lansing
Collected Date(s): 09/07/2022
Submitted Date/Time: 09/07/2022 12:50
Sampled by: Austin Westhuis
P.O. #: 30112892.04100

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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).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

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, and 2-chloroethylvinyl ether 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.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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
SM2540B	Standard Method 2540 B 2015
SW5035A	SW 846 Method 5035A Revision 1 July 2002
SW5035A/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5035A Revision 1 July 2002
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (6 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S40011.01	SB-A4-MX60_1-3_090722	Soil	09/07/22 10:00
S40011.02	SB-A4-MX60_4-6_090722	Soil	09/07/22 10:05
S40011.03	SB-A4-MX60_6-8_090722	Soil	09/07/22 10:09
S40011.04	SB-A4-MX60_8.5-10_090722	Soil	09/07/22 10:14
S40011.05	SB-A4-MX60_10-12_090722	Soil	09/07/22 10:19
S40011.06	Trip Blank	Methanol	09/07/22 00:01



Analytical Laboratory Report

Lab Sample ID: S40011.01

Sample Tag: SB-A4-MX60_1-3_090722

Collected Date/Time: 09/07/2022 10:00

Matrix: Soil

COC Reference: 157330

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.5	IR
1	4oz Glass	None	Yes	5.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	9.974/10	SW5035A	09/07/22 16:25	BDO	

Inorganics

Method: SM2540B, Run Date: 09/07/22 16:53, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	95	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/13/22 13:52, Analyst: BML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	55.4	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 15:40, Analyst: BML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	55.4	60-29-7	
Acetone	Not detected	1,000		ug/kg	55.4	67-64-1	
Methyl iodide	Not detected	100		ug/kg	55.4	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	55.4	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	55.4	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	55.4	107-13-1	
2-Butanone (MEK)	Not detected	830		ug/kg	55.4	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	55.4	75-71-8	
Chloromethane	Not detected	300		ug/kg	55.4	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	55.4	75-01-4	
Bromomethane	Not detected	200		ug/kg	55.4	74-83-9	
Chloroethane	Not detected	300		ug/kg	55.4	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	55.4	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	55.4	75-35-4	
Methylene chloride	Not detected	100		ug/kg	55.4	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	55.4	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	55.4	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	55.4	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	55.4	109-99-9	
Chloroform	Not detected	60		ug/kg	55.4	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	55.4	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	55.4	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	55.4	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	55.4	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	55.4	56-23-5	
Benzene	Not detected	60		ug/kg	55.4	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	55.4	107-06-2	



Analytical Laboratory Report

Lab Sample ID: S40011.01 (continued)

Sample Tag: SB-A4-MX60_1-3_090722

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 15:40, Analyst: BML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	55.4	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	55.4	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	55.4	75-27-4	
Dibromomethane	Not detected	300		ug/kg	55.4	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	55.4	10061-01-5	
Toluene	Not detected	60		ug/kg	55.4	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	55.4	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	55.4	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	55.4	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	55.4	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	55.4	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	55.4	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	55.4	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	55.4	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	55.4	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	55.4		
o-Xylene	Not detected	60		ug/kg	55.4	95-47-6	
Styrene	Not detected	60		ug/kg	55.4	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	55.4	98-82-8	
Bromoform	Not detected	100		ug/kg	55.4	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	55.4	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	55.4	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	55.4	103-65-1	
Bromobenzene	Not detected	100		ug/kg	55.4	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	55.4	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	55.4	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	55.4	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	55.4	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	55.4	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	55.4	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	55.4	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	55.4	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	55.4	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	55.4	104-51-8	
Hexachloroethane	Not detected	300		ug/kg	55.4	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	55.4	96-12-8	
1,2,4-Trichlorobenzene	Not detected	370		ug/kg	55.4	120-82-1	
1,2,3-Trichlorobenzene	Not detected	370		ug/kg	55.4	87-61-6	
Naphthalene	Not detected	300		ug/kg	55.4	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	55.4	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Lab Sample ID: S40011.02

Sample Tag: SB-A4-MX60_4-6_090722

Collected Date/Time: 09/07/2022 10:05

Matrix: Soil

COC Reference: 157330

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.5	IR
1	4oz Glass	None	Yes	5.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.146/10	SW5035A	09/07/22 16:25	BDO	

Inorganics

Method: SM2540B, Run Date: 09/07/22 16:53, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/13/22 14:16, Analyst: BML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	64.1	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 16:04, Analyst: BML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	64.1	60-29-7	
Acetone	Not detected	1,000		ug/kg	64.1	67-64-1	
Methyl iodide	Not detected	100		ug/kg	64.1	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	64.1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	64.1	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	64.1	107-13-1	
2-Butanone (MEK)	Not detected	960		ug/kg	64.1	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	64.1	75-71-8	
Chloromethane	Not detected	300		ug/kg	64.1	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	64.1	75-01-4	
Bromomethane	Not detected	300		ug/kg	64.1	74-83-9	
Chloroethane	Not detected	300		ug/kg	64.1	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	64.1	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	64.1	75-35-4	
Methylene chloride	Not detected	100		ug/kg	64.1	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	64.1	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	64.1	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	64.1	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	64.1	109-99-9	
Chloroform	Not detected	60		ug/kg	64.1	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	64.1	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	64.1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	64.1	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	64.1	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	64.1	56-23-5	
Benzene	Not detected	60		ug/kg	64.1	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	64.1	107-06-2	



Analytical Laboratory Report

Lab Sample ID: S40011.02 (continued)

Sample Tag: SB-A4-MX60_4-6_090722

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 16:04, Analyst: BML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	64.1	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	64.1	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	64.1	75-27-4	
Dibromomethane	Not detected	300		ug/kg	64.1	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	64.1	10061-01-5	
Toluene	Not detected	60		ug/kg	64.1	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	64.1	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	64.1	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	64.1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	64.1	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	64.1	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	64.1	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	64.1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	64.1	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	64.1	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	64.1		
o-Xylene	Not detected	60		ug/kg	64.1	95-47-6	
Styrene	Not detected	60		ug/kg	64.1	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	64.1	98-82-8	
Bromoform	Not detected	100		ug/kg	64.1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	64.1	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	64.1	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	64.1	103-65-1	
Bromobenzene	Not detected	100		ug/kg	64.1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	64.1	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	64.1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	64.1	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	64.1	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	64.1	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	64.1	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	64.1	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	64.1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	64.1	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	64.1	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	64.1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	64.1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	420		ug/kg	64.1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	420		ug/kg	64.1	87-61-6	
Naphthalene	Not detected	300		ug/kg	64.1	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	64.1	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Lab Sample ID: S40011.03

Sample Tag: SB-A4-MX60_6-8_090722

Collected Date/Time: 09/07/2022 10:09

Matrix: Soil

COC Reference: 157330

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.5	IR
1	4oz Glass	None	Yes	5.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.242/10	SW5035A	09/07/22 16:25	BDO	

Inorganics

Method: SM2540B, Run Date: 09/07/22 16:53, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	91	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/13/22 15:01, Analyst: BML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	58.6	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 16:27, Analyst: BML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	58.6	60-29-7	
Acetone	Not detected	1,000		ug/kg	58.6	67-64-1	
Methyl iodide	Not detected	100		ug/kg	58.6	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	58.6	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	58.6	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	58.6	107-13-1	
2-Butanone (MEK)	Not detected	880		ug/kg	58.6	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	58.6	75-71-8	
Chloromethane	Not detected	300		ug/kg	58.6	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	58.6	75-01-4	
Bromomethane	Not detected	200		ug/kg	58.6	74-83-9	
Chloroethane	Not detected	300		ug/kg	58.6	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	58.6	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	58.6	75-35-4	
Methylene chloride	Not detected	100		ug/kg	58.6	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	58.6	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	58.6	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	58.6	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	58.6	109-99-9	
Chloroform	Not detected	60		ug/kg	58.6	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	58.6	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	58.6	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	58.6	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	58.6	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	58.6	56-23-5	
Benzene	Not detected	60		ug/kg	58.6	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	58.6	107-06-2	



Analytical Laboratory Report

Lab Sample ID: S40011.03 (continued)

Sample Tag: SB-A4-MX60_6-8_090722

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 16:27, Analyst: BML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	58.6	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	58.6	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	58.6	75-27-4	
Dibromomethane	Not detected	300		ug/kg	58.6	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	58.6	10061-01-5	
Toluene	Not detected	60		ug/kg	58.6	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	58.6	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	58.6	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	58.6	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	58.6	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	58.6	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	58.6	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	58.6	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	58.6	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	58.6	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	58.6		
o-Xylene	Not detected	60		ug/kg	58.6	95-47-6	
Styrene	Not detected	60		ug/kg	58.6	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	58.6	98-82-8	
Bromoform	Not detected	100		ug/kg	58.6	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	58.6	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	58.6	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	58.6	103-65-1	
Bromobenzene	Not detected	100		ug/kg	58.6	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	58.6	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	58.6	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	58.6	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	58.6	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	58.6	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	58.6	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	58.6	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	58.6	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	58.6	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	58.6	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	58.6	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	58.6	96-12-8	
1,2,4-Trichlorobenzene	Not detected	390		ug/kg	58.6	120-82-1	
1,2,3-Trichlorobenzene	Not detected	390		ug/kg	58.6	87-61-6	
Naphthalene	Not detected	300		ug/kg	58.6	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	58.6	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Lab Sample ID: S40011.04

Sample Tag: SB-A4-MX60_8.5-10_090722

Collected Date/Time: 09/07/2022 10:14

Matrix: Soil

COC Reference: 157330

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.5	IR
1	4oz Glass	None	Yes	5.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.071/10	SW5035A	09/07/22 16:25	BDO	

Inorganics

Method: SM2540B, Run Date: 09/07/22 16:53, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	89	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/13/22 15:21, Analyst: BML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	62	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 16:50, Analyst: BML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	62	60-29-7	
Acetone	Not detected	1,000		ug/kg	62	67-64-1	
Methyl iodide	Not detected	100		ug/kg	62	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	62	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	62	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	62	107-13-1	
2-Butanone (MEK)	Not detected	930		ug/kg	62	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	62	75-71-8	
Chloromethane	Not detected	300		ug/kg	62	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	62	75-01-4	
Bromomethane	Not detected	200		ug/kg	62	74-83-9	
Chloroethane	Not detected	300		ug/kg	62	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	62	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	62	75-35-4	
Methylene chloride	Not detected	100		ug/kg	62	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	62	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	62	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	62	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	62	109-99-9	
Chloroform	Not detected	60		ug/kg	62	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	62	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	62	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	62	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	62	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	62	56-23-5	
Benzene	Not detected	60		ug/kg	62	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	62	107-06-2	



Analytical Laboratory Report

Lab Sample ID: S40011.04 (continued)
Sample Tag: SB-A4-MX60_8.5-10_090722

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 16:50, Analyst: BML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	62	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	62	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	62	75-27-4	
Dibromomethane	Not detected	300		ug/kg	62	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	62	10061-01-5	
Toluene	Not detected	60		ug/kg	62	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	62	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	62	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	62	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	62	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	62	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	62	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	62	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	62	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	62	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	62		
o-Xylene	Not detected	60		ug/kg	62	95-47-6	
Styrene	Not detected	60		ug/kg	62	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	62	98-82-8	
Bromoform	Not detected	100		ug/kg	62	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	62	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	62	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	62	103-65-1	
Bromobenzene	Not detected	100		ug/kg	62	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	62	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	62	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	62	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	62	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	62	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	62	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	62	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	62	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	62	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	62	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	62	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	62	96-12-8	
1,2,4-Trichlorobenzene	Not detected	410		ug/kg	62	120-82-1	
1,2,3-Trichlorobenzene	Not detected	410		ug/kg	62	87-61-6	
Naphthalene	Not detected	300		ug/kg	62	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	62	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Lab Sample ID: S40011.05

Sample Tag: SB-A4-MX60_10-12_090722

Collected Date/Time: 09/07/2022 10:19

Matrix: Soil

COC Reference: 157330

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	5.5	IR
1	4oz Glass	None	Yes	5.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.344/10	SW5035A	09/07/22 16:25	BDO	

Inorganics

Method: SM2540B, Run Date: 09/07/22 16:53, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	76	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/13/22 15:42, Analyst: BML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	80		ug/kg	79.4	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 17:14, Analyst: BML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	79.4	60-29-7	
Acetone	Not detected	2,000		ug/kg	79.4	67-64-1	
Methyl iodide	Not detected	200		ug/kg	79.4	74-88-4	
Carbon disulfide	Not detected	400		ug/kg	79.4	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	79.4	1634-04-4	
Acrylonitrile	Not detected	200		ug/kg	79.4	107-13-1	
2-Butanone (MEK)	Not detected	1,200		ug/kg	79.4	78-93-3	
Dichlorodifluoromethane	Not detected	400		ug/kg	79.4	75-71-8	
Chloromethane	Not detected	400		ug/kg	79.4	74-87-3	
Vinyl chloride	Not detected	80		ug/kg	79.4	75-01-4	
Bromomethane	Not detected	300		ug/kg	79.4	74-83-9	
Chloroethane	Not detected	400		ug/kg	79.4	75-00-3	
Trichlorofluoromethane	Not detected	200		ug/kg	79.4	75-69-4	
1,1-Dichloroethene	Not detected	80		ug/kg	79.4	75-35-4	
Methylene chloride	Not detected	200		ug/kg	79.4	75-09-2	
trans-1,2-Dichloroethene	Not detected	80		ug/kg	79.4	156-60-5	
1,1-Dichloroethane	Not detected	80		ug/kg	79.4	75-34-3	
cis-1,2-Dichloroethene	Not detected	80		ug/kg	79.4	156-59-2	
Tetrahydrofuran*	Not detected	2,000		ug/kg	79.4	109-99-9	
Chloroform	Not detected	80		ug/kg	79.4	67-66-3	
Bromochloromethane	Not detected	200		ug/kg	79.4	74-97-5	
1,1,1-Trichloroethane	Not detected	80		ug/kg	79.4	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	4,000		ug/kg	79.4	108-10-1	
2-Hexanone	Not detected	4,000		ug/kg	79.4	591-78-6	
Carbon tetrachloride	Not detected	80		ug/kg	79.4	56-23-5	
Benzene	Not detected	80		ug/kg	79.4	71-43-2	
1,2-Dichloroethane	Not detected	80		ug/kg	79.4	107-06-2	



Analytical Laboratory Report

Lab Sample ID: S40011.05 (continued)

Sample Tag: SB-A4-MX60_10-12_090722

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 17:14, Analyst: BML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	80		ug/kg	79.4	79-01-6	
1,2-Dichloropropane	Not detected	80		ug/kg	79.4	78-87-5	
Bromodichloromethane	Not detected	200		ug/kg	79.4	75-27-4	
Dibromomethane	Not detected	400		ug/kg	79.4	74-95-3	
cis-1,3-Dichloropropene	Not detected	80		ug/kg	79.4	10061-01-5	
Toluene	Not detected	80		ug/kg	79.4	108-88-3	
trans-1,3-Dichloropropene	Not detected	80		ug/kg	79.4	10061-02-6	
1,1,2-Trichloroethane	Not detected	80		ug/kg	79.4	79-00-5	
Tetrachloroethene	Not detected	80		ug/kg	79.4	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	80		ug/kg	79.4	110-57-6	
Dibromochloromethane	Not detected	200		ug/kg	79.4	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	79.4	106-93-4	M
Chlorobenzene	Not detected	80		ug/kg	79.4	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	200		ug/kg	79.4	630-20-6	
Ethylbenzene	Not detected	80		ug/kg	79.4	100-41-4	
p,m-Xylene	Not detected	200		ug/kg	79.4		
o-Xylene	Not detected	80		ug/kg	79.4	95-47-6	
Styrene	Not detected	80		ug/kg	79.4	100-42-5	
Isopropylbenzene	Not detected	400		ug/kg	79.4	98-82-8	
Bromoform	Not detected	200		ug/kg	79.4	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	80		ug/kg	79.4	79-34-5	
1,2,3-Trichloropropane	Not detected	200		ug/kg	79.4	96-18-4	
n-Propylbenzene	Not detected	80		ug/kg	79.4	103-65-1	
Bromobenzene	Not detected	200		ug/kg	79.4	108-86-1	
1,3,5-Trimethylbenzene	Not detected	80		ug/kg	79.4	108-67-8	
tert-Butylbenzene	Not detected	80		ug/kg	79.4	98-06-6	
1,2,4-Trimethylbenzene	Not detected	80		ug/kg	79.4	95-63-6	
sec-Butylbenzene	Not detected	80		ug/kg	79.4	135-98-8	
p-Isopropyltoluene	Not detected	200		ug/kg	79.4	99-87-6	
1,3-Dichlorobenzene	Not detected	200		ug/kg	79.4	541-73-1	
1,4-Dichlorobenzene	Not detected	200		ug/kg	79.4	106-46-7	
1,2-Dichlorobenzene	Not detected	200		ug/kg	79.4	95-50-1	
1,2,3-Trimethylbenzene	Not detected	80		ug/kg	79.4	526-73-8	
n-Butylbenzene	Not detected	80		ug/kg	79.4	104-51-8	
Hexachloroethane	Not detected	500		ug/kg	79.4	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	400		ug/kg	79.4	96-12-8	
1,2,4-Trichlorobenzene	Not detected	520		ug/kg	79.4	120-82-1	
1,2,3-Trichlorobenzene	Not detected	520		ug/kg	79.4	87-61-6	
Naphthalene	Not detected	400		ug/kg	79.4	91-20-3	
2-Methylnaphthalene	Not detected	200		ug/kg	79.4	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Lab Sample ID: S40011.06

Sample Tag: Trip Blank

Collected Date/Time: 09/07/2022 00:01

Matrix: Methanol

COC Reference: 157330

Sample Containers

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

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10/10	SW5035A	09/07/22 16:25	BDO	

Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 15:17, Analyst: BML

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	50	60-29-7	
Acetone	Not detected	1,000		ug/kg	50	67-64-1	
Methyl iodide	Not detected	100		ug/kg	50	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	50	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	50	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	50	107-13-1	
2-Butanone (MEK)	Not detected	750		ug/kg	50	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	50	75-71-8	
Chloromethane	Not detected	300		ug/kg	50	74-87-3	
Vinyl chloride	Not detected	50		ug/kg	50	75-01-4	
Bromomethane	Not detected	200		ug/kg	50	74-83-9	
Chloroethane	Not detected	300		ug/kg	50	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	50	75-69-4	
1,1-Dichloroethene	Not detected	50		ug/kg	50	75-35-4	
Methylene chloride	Not detected	100		ug/kg	50	75-09-2	
trans-1,2-Dichloroethene	Not detected	50		ug/kg	50	156-60-5	
1,1-Dichloroethane	Not detected	50		ug/kg	50	75-34-3	
cis-1,2-Dichloroethene	Not detected	50		ug/kg	50	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	50	109-99-9	
Chloroform	Not detected	50		ug/kg	50	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	50	74-97-5	
1,1,1-Trichloroethane	Not detected	50		ug/kg	50	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	50	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	50	591-78-6	
Carbon tetrachloride	Not detected	50		ug/kg	50	56-23-5	
Benzene	Not detected	50		ug/kg	50	71-43-2	
1,2-Dichloroethane	Not detected	50		ug/kg	50	107-06-2	
Trichloroethene	Not detected	50		ug/kg	50	79-01-6	
1,2-Dichloropropane	Not detected	50		ug/kg	50	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	50	75-27-4	
Dibromomethane	Not detected	300		ug/kg	50	74-95-3	
cis-1,3-Dichloropropene	Not detected	50		ug/kg	50	10061-01-5	
Toluene	Not detected	50		ug/kg	50	108-88-3	
trans-1,3-Dichloropropene	Not detected	50		ug/kg	50	10061-02-6	
1,1,2-Trichloroethane	Not detected	50		ug/kg	50	79-00-5	
Tetrachloroethene	Not detected	50		ug/kg	50	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	50		ug/kg	50	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S40011.06 (continued)

Sample Tag: Trip Blank

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 09/09/22 15:17, Analyst: BML (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	100		ug/kg	50	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	50	106-93-4	M
Chlorobenzene	Not detected	50		ug/kg	50	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	50	630-20-6	
Ethylbenzene	Not detected	50		ug/kg	50	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	50		
o-Xylene	Not detected	50		ug/kg	50	95-47-6	
Styrene	Not detected	50		ug/kg	50	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	50	98-82-8	
Bromoform	Not detected	100		ug/kg	50	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	50		ug/kg	50	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	50	96-18-4	
n-Propylbenzene	Not detected	50		ug/kg	50	103-65-1	
Bromobenzene	Not detected	100		ug/kg	50	108-86-1	
1,3,5-Trimethylbenzene	Not detected	50		ug/kg	50	108-67-8	
tert-Butylbenzene	Not detected	50		ug/kg	50	98-06-6	
1,2,4-Trimethylbenzene	Not detected	50		ug/kg	50	95-63-6	
sec-Butylbenzene	Not detected	50		ug/kg	50	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	50	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	50	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	50	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	50	95-50-1	
1,2,3-Trimethylbenzene	Not detected	50		ug/kg	50	526-73-8	
n-Butylbenzene	Not detected	50		ug/kg	50	104-51-8	
Hexachloroethane	Not detected	300		ug/kg	50	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	50	96-12-8	
1,2,4-Trichlorobenzene	Not detected	330		ug/kg	50	120-82-1	
1,2,3-Trichlorobenzene	Not detected	330		ug/kg	50	87-61-6	
Naphthalene	Not detected	300		ug/kg	50	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	50	91-57-6	

M-Result reported to MDL not RDL



Quality Control Report

Report ID: S40011.01(01)+QC01
Generated on 09/14/2022

Report to

Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

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

Phone: O:248-809-4013 C:947-777-5215 FAX:

Report Summary

Lab Sample ID(s): S40011.01-S40011.06
Project: 30112892.04100 / RACER Lansing
Submitted Date/Time: 09/07/2022 12:50
Sampled by: Austin Westhuis
P.O. #: 30112892.04100

QC Report Sections

Cover Page (Page 18)
Analysis Summary (Pages 19-24)
Prep Batch Summary (Page 25)
Surrogates per Lab Sample (Pages 26-31)
Surrogates per QC Sample (Pages 32-33)
Internal Standards per Lab Sample (Pages 34-39)
Internal Standards per QC Sample (Pages 40-41)
Batch QC Results (Pages 42-51)

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: S40011.01

Sample Tag: SB-A4-MX60_1-3_090722

Collected Date/Time: 09/07/2022 10:00

Matrix: Soil

COC Reference: 157330

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Total Solids	SM2540B	09/07/22 16:53	TS220907A	TS220907A	No	BLK/LCS/DUP
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	09/13/22 13:52	220913A9	VS220913S2	Yes	BLK/LCS/LCSD
Volatile Organics 5035	SW5035A/8260C	09/09/22 15:40	220909A5	VF220909S1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S40011.02

Sample Tag: SB-A4-MX60_4-6_090722

Collected Date/Time: 09/07/2022 10:05

Matrix: Soil

COC Reference: 157330

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Total Solids	SM2540B	09/07/22 16:53	TS220907A	TS220907A	No	BLK/LCS/DUP
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	09/13/22 14:16	220913A9	VS220913S2	Yes	BLK/LCS/LCSD
Volatile Organics 5035	SW5035A/8260C	09/09/22 16:04	220909A5	VF220909S1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S40011.03

Sample Tag: SB-A4-MX60_6-8_090722

Collected Date/Time: 09/07/2022 10:09

Matrix: Soil

COC Reference: 157330

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Total Solids	SM2540B	09/07/22 16:53	TS220907A	TS220907A	No	BLK/LCS/DUP
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	09/13/22 15:01	220913A9	VS220913S2	Yes	BLK/LCS/LCSD
Volatile Organics 5035	SW5035A/8260C	09/09/22 16:27	220909A5	VF220909S1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S40011.04

Sample Tag: SB-A4-MX60_8.5-10_090722

Collected Date/Time: 09/07/2022 10:14

Matrix: Soil

COC Reference: 157330

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Total Solids	SM2540B	09/07/22 16:53	TS220907A	TS220907A	No	BLK/LCS/DUP
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	09/13/22 15:21	220913A9	VS220913S2	Yes	BLK/LCS/LCSD
Volatile Organics 5035	SW5035A/8260C	09/09/22 16:50	220909A5	VF220909S1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S40011.05

Sample Tag: SB-A4-MX60_10-12_090722

Collected Date/Time: 09/07/2022 10:19

Matrix: Soil

COC Reference: 157330

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Total Solids	SM2540B	09/07/22 16:53	TS220907A	TS220907A	No	BLK/LCS/DUP
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	09/13/22 15:42	220913A9	VS220913S2	Yes	BLK/LCS/LCSD
Volatile Organics 5035	SW5035A/8260C	09/09/22 17:14	220909A5	VF220909S1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S40011.06

Sample Tag: Trip Blank

Collected Date/Time: 09/07/2022 00:01

Matrix: Methanol

COC Reference: 157330

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics 5035	SW5035A/8260C	09/09/22 15:17	220909A5	VF220909S1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: TS220907A

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S40011.01	Total Solids	SM2540B	09/07/22 16:53	TS220907A
S40011.02	Total Solids	SM2540B	09/07/22 16:53	TS220907A
S40011.03	Total Solids	SM2540B	09/07/22 16:53	TS220907A
S40011.04	Total Solids	SM2540B	09/07/22 16:53	TS220907A
S40011.05	Total Solids	SM2540B	09/07/22 16:53	TS220907A

Organics - Volatiles, Prep Batch ID: VF220909S1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S40011.01	Volatile Organics 5035	SW5035A/8260C	09/09/22 15:40	220909A5
S40011.02	Volatile Organics 5035	SW5035A/8260C	09/09/22 16:04	220909A5
S40011.03	Volatile Organics 5035	SW5035A/8260C	09/09/22 16:27	220909A5
S40011.04	Volatile Organics 5035	SW5035A/8260C	09/09/22 16:50	220909A5
S40011.05	Volatile Organics 5035	SW5035A/8260C	09/09/22 17:14	220909A5
S40011.06	Volatile Organics 5035	SW5035A/8260C	09/09/22 15:17	220909A5

Organics - Volatiles, Prep Batch ID: VS220913S2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S40011.01	1,4-Dioxane	SW8260B - SIM	09/13/22 13:52	220913A9
S40011.02	1,4-Dioxane	SW8260B - SIM	09/13/22 14:16	220913A9
S40011.03	1,4-Dioxane	SW8260B - SIM	09/13/22 15:01	220913A9
S40011.04	1,4-Dioxane	SW8260B - SIM	09/13/22 15:21	220913A9
S40011.05	1,4-Dioxane	SW8260B - SIM	09/13/22 15:42	220913A9

QC Report - Surrogates per Lab Sample

Lab Sample ID: S40011.01

Sample Tag: SB-A4-MX60_1-3_090722

Collected Date/Time: 09/07/2022 10:00

Matrix: Soil

COC Reference: 157330

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 15:40, Matrix: SO, Dilution: 55.4

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.0	81.0	124.0
1,2-Dichloroethane-D4		99.6	71.0	124.0
Toluene-D8		106.8	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S40011.02

Sample Tag: SB-A4-MX60_4-6_090722

Collected Date/Time: 09/07/2022 10:05

Matrix: Soil

COC Reference: 157330

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 16:04, Matrix: SO, Dilution: 64.1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.6	81.0	124.0
1,2-Dichloroethane-D4		107.6	71.0	124.0
Toluene-D8		108.2	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S40011.03

Sample Tag: SB-A4-MX60_6-8_090722

Collected Date/Time: 09/07/2022 10:09

Matrix: Soil

COC Reference: 157330

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 16:27, Matrix: SO, Dilution: 58.6

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		106.4	81.0	124.0
1,2-Dichloroethane-D4		107.8	71.0	124.0
Toluene-D8		109.7	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S40011.04

Sample Tag: SB-A4-MX60_8.5-10_090722

Collected Date/Time: 09/07/2022 10:14

Matrix: Soil

COC Reference: 157330

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 16:50, Matrix: SO, Dilution: 62

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		106.1	81.0	124.0
1,2-Dichloroethane-D4		103.2	71.0	124.0
Toluene-D8		108.0	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S40011.05

Sample Tag: SB-A4-MX60_10-12_090722

Collected Date/Time: 09/07/2022 10:19

Matrix: Soil

COC Reference: 157330

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 17:14, Matrix: SO, Dilution: 79.4

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		106.6	81.0	124.0
1,2-Dichloroethane-D4		105.8	71.0	124.0
Toluene-D8		108.3	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S40011.06

Sample Tag: Trip Blank

Collected Date/Time: 09/07/2022 00:01

Matrix: Methanol

COC Reference: 157330

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 15:17, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		104.9	81.0	124.0
1,2-Dichloroethane-D4		103.1	71.0	124.0
Toluene-D8		107.9	83.0	120.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF220909S1

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

Blank (BLK)

Lab Sample ID: 220909A5.BLKS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 14:02, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		107.1	81.0	124.0
1,2-Dichloroethane-D4		101.9	71.0	124.0
Toluene-D8		108.9	83.0	120.0

Laboratory Control Sample (LCS)

Lab Sample ID: 220909A5.LCSS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 12:07, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		109.2	81.0	124.0
1,2-Dichloroethane-D4		113.2	71.0	124.0
Toluene-D8		108.3	83.0	120.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220909A5.LCSDS09A, Parent Sample ID: 220909A5.LCSS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 12:30, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		108.4	81.0	124.0
1,2-Dichloroethane-D4		112.7	71.0	124.0
Toluene-D8		108.4	83.0	120.0

Matrix Spike (MS)

Lab Sample ID: 220909A5.3987908M, Parent Sample ID: S39879.07

Run in Batch: 220909A5, Run Date: 09/09/2022 12:53, Prep Date: 09/09/2022, Matrix: SO, Dilution: 62.9

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		104.9	81.0	124.0
1,2-Dichloroethane-D4		105.5	71.0	124.0
Toluene-D8		107.6	83.0	120.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 220909A5.3987909N, Parent Sample ID: 220909A5.3987908M

Run in Batch: 220909A5, Run Date: 09/09/2022 13:16, Prep Date: 09/09/2022, Matrix: SO, Dilution: 62

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.5	81.0	124.0
1,2-Dichloroethane-D4		108.0	71.0	124.0
Toluene-D8		108.1	83.0	120.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS220913S2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220913A9.BLKS13A

Run in Batch: 220913A9, Run Date: 09/13/2022 13:17, Prep Date: 09/13/2022, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample (LCS)

Lab Sample ID: 220913A9.LCSS13A

Run in Batch: 220913A9, Run Date: 09/13/2022 12:15, Prep Date: 09/13/2022, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220913A9.LCSDS13A, Parent Sample ID: 220913A9.LCSS13A

Run in Batch: 220913A9, Run Date: 09/13/2022 12:35, Prep Date: 09/13/2022, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S40011.01

Sample Tag: SB-A4-MX60_1-3_090722

Collected Date/Time: 09/07/2022 10:00

Matrix: Soil

COC Reference: 157330

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 220913A9, Run Date: 09/13/2022 13:52, Matrix: SO, Dilution: 55.4

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		124.4	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 15:40, Matrix: SO, Dilution: 55.4

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		90.5	50.0	200.0
1,4-Difluorobenzene		88.1	50.0	200.0
Chlorobenzene-D5		84.1	50.0	200.0
1,4-Dichlorobenzene-D4		81.8	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S40011.02

Sample Tag: SB-A4-MX60_4-6_090722

Collected Date/Time: 09/07/2022 10:05

Matrix: Soil

COC Reference: 157330

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 220913A9, Run Date: 09/13/2022 14:16, Matrix: SO, Dilution: 64.1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		120.2	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 16:04, Matrix: SO, Dilution: 64.1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		97.3	50.0	200.0
1,4-Difluorobenzene		99.6	50.0	200.0
Chlorobenzene-D5		100.2	50.0	200.0
1,4-Dichlorobenzene-D4		100.2	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S40011.03

Sample Tag: SB-A4-MX60_6-8_090722

Collected Date/Time: 09/07/2022 10:09

Matrix: Soil

COC Reference: 157330

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 220913A9, Run Date: 09/13/2022 15:01, Matrix: SO, Dilution: 58.6

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		117.6	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 16:27, Matrix: SO, Dilution: 58.6

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		95.5	50.0	200.0
1,4-Difluorobenzene		97.6	50.0	200.0
Chlorobenzene-D5		98.2	50.0	200.0
1,4-Dichlorobenzene-D4		95.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S40011.04

Sample Tag: SB-A4-MX60_8.5-10_090722

Collected Date/Time: 09/07/2022 10:14

Matrix: Soil

COC Reference: 157330

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 220913A9, Run Date: 09/13/2022 15:21, Matrix: SO, Dilution: 62

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		124.1	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 16:50, Matrix: SO, Dilution: 62

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		94.0	50.0	200.0
1,4-Difluorobenzene		94.0	50.0	200.0
Chlorobenzene-D5		92.1	50.0	200.0
1,4-Dichlorobenzene-D4		89.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S40011.05

Sample Tag: SB-A4-MX60_10-12_090722

Collected Date/Time: 09/07/2022 10:19

Matrix: Soil

COC Reference: 157330

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 220913A9, Run Date: 09/13/2022 15:42, Matrix: SO, Dilution: 79.4

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		112.9	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 17:14, Matrix: SO, Dilution: 79.4

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		98.1	50.0	200.0
1,4-Difluorobenzene		98.8	50.0	200.0
Chlorobenzene-D5		97.8	50.0	200.0
1,4-Dichlorobenzene-D4		95.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S40011.06

Sample Tag: Trip Blank

Collected Date/Time: 09/07/2022 00:01

Matrix: Methanol

COC Reference: 157330

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 220909A5, Run Date: 09/09/2022 15:17, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		95.7	50.0	200.0
1,4-Difluorobenzene		96.6	50.0	200.0
Chlorobenzene-D5		95.3	50.0	200.0
1,4-Dichlorobenzene-D4		92.7	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF220909S1

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

Blank (BLK)

Lab Sample ID: 220909A5.BLKS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 14:02, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		96.7	50.0	200.0
1,4-Difluorobenzene		96.0	50.0	200.0
Chlorobenzene-D5		95.0	50.0	200.0
1,4-Dichlorobenzene-D4		93.9	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 220909A5.LCSS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 12:07, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		100.2	50.0	200.0
1,4-Difluorobenzene		100.9	50.0	200.0
Chlorobenzene-D5		100.1	50.0	200.0
1,4-Dichlorobenzene-D4		99.6	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220909A5.LCSDS09A, Parent Sample ID: 220909A5.LCSS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 12:30, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		99.6	50.0	200.0
1,4-Difluorobenzene		100.1	50.0	200.0
Chlorobenzene-D5		100.7	50.0	200.0
1,4-Dichlorobenzene-D4		102.2	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 220909A5.3987908M, Parent Sample ID: S39879.07

Run in Batch: 220909A5, Run Date: 09/09/2022 12:53, Prep Date: 09/09/2022, Matrix: SO, Dilution: 62.9

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		96.2	50.0	200.0
1,4-Difluorobenzene		94.7	50.0	200.0
Chlorobenzene-D5		91.9	50.0	200.0
1,4-Dichlorobenzene-D4		88.0	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 220909A5.3987909N, Parent Sample ID: 220909A5.3987908M

Run in Batch: 220909A5, Run Date: 09/09/2022 13:16, Prep Date: 09/09/2022, Matrix: SO, Dilution: 62

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		95.4	50.0	200.0
1,4-Difluorobenzene		94.2	50.0	200.0
Chlorobenzene-D5		92.4	50.0	200.0
1,4-Dichlorobenzene-D4		90.1	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS220913S2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220913A9.BLKS13A

Run in Batch: 220913A9, Run Date: 09/13/2022 13:17, Prep Date: 09/13/2022, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		118.1	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 220913A9.LCSS13A

Run in Batch: 220913A9, Run Date: 09/13/2022 12:15, Prep Date: 09/13/2022, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		119.3	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220913A9.LCSDS13A, Parent Sample ID: 220913A9.LCSS13A

Run in Batch: 220913A9, Run Date: 09/13/2022 12:35, Prep Date: 09/13/2022, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		132.9	50.0	200.0

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TS220907A

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: TS220907A.LRB1

Run in Batch: TS220907A, Run Date: 09/07/2022 16:53, Prep Date: 09/07/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Solids		ND	1	%

Laboratory Control Sample (LCS)

Lab Sample ID: TS220907A.LCS1

Run in Batch: TS220907A, Run Date: 09/07/2022 16:53, Prep Date: 09/07/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Solids		100	90	110

Duplicate (DUP)

Lab Sample ID: TS220907A.DP1, Parent Sample ID: S39993.01

Run in Batch: TS220907A, Run Date: 09/07/2022 16:53, Prep Date: 09/07/2022, Matrix: Soil, Dilution: 1

Analyte	Flags	RPD	RPD CL
Total Solids		1	5

Duplicate (DUP)

Lab Sample ID: TS220907A.DP2, Parent Sample ID: S40013.03

Run in Batch: TS220907A, Run Date: 09/07/2022 16:53, Prep Date: 09/07/2022, Matrix: Soil, Dilution: 1

Analyte	Flags	RPD	RPD CL
Total Solids		0	5

Organics - Volatiles, Prep Batch ID: VF220909S1

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

Blank (BLK)

Lab Sample ID: 220909A5.BLKS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 14:02, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	50.0	ug/kg
Acetone		ND	500.0	ug/kg
Methyl iodide		ND	50.0	ug/kg
Carbon disulfide		ND	50.0	ug/kg
tert-Methyl butyl ether (MTBE)		ND	50.0	ug/kg
Acrylonitrile		ND	50.0	ug/kg
2-Butanone (MEK)		ND	500.0	ug/kg
Dichlorodifluoromethane		ND	50.0	ug/kg
Chloromethane		ND	50.0	ug/kg
Vinyl chloride		ND	50.0	ug/kg
Bromomethane		ND	50.0	ug/kg
Chloroethane		ND	50.0	ug/kg
Trichlorofluoromethane		ND	50.0	ug/kg
1,1-Dichloroethene		ND	50.0	ug/kg
Methylene chloride		ND	50.0	ug/kg
trans-1,2-Dichloroethene		ND	50.0	ug/kg
1,1-Dichloroethane		ND	50.0	ug/kg
cis-1,2-Dichloroethene		ND	50.0	ug/kg
Tetrahydrofuran		ND	500.0	ug/kg
Chloroform		ND	50.0	ug/kg
Bromochloromethane		ND	50.0	ug/kg
1,1,1-Trichloroethane		ND	50.0	ug/kg
4-Methyl-2-pentanone (MIBK)		ND	500.0	ug/kg
2-Hexanone		ND	500.0	ug/kg
Carbon tetrachloride		ND	50.0	ug/kg
Benzene		ND	50.0	ug/kg
1,2-Dichloroethane		ND	50.0	ug/kg
Trichloroethene		ND	50.0	ug/kg
1,2-Dichloropropane		ND	50.0	ug/kg
Bromodichloromethane		ND	50.0	ug/kg
Dibromomethane		ND	50.0	ug/kg
cis-1,3-Dichloropropene		ND	50.0	ug/kg
Toluene		ND	50.0	ug/kg
trans-1,3-Dichloropropene		ND	50.0	ug/kg
1,1,2-Trichloroethane		ND	50.0	ug/kg
Tetrachloroethene		ND	50.0	ug/kg
trans-1,4-Dichloro-2-butene		ND	50.0	ug/kg
Dibromochloromethane		ND	50.0	ug/kg
1,2-Dibromoethane		ND	50.0	ug/kg
Chlorobenzene		ND	50.0	ug/kg
1,1,1,2-Tetrachloroethane		ND	50.0	ug/kg
Ethylbenzene		ND	50.0	ug/kg
p,m-Xylene		ND	50.0	ug/kg
o-Xylene		ND	50.0	ug/kg
Styrene		ND	50.0	ug/kg
Isopropylbenzene		ND	50.0	ug/kg

Organics - Volatiles, Prep Batch ID: VF220909S1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 220909A5.BLKS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 14:02, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	50.0	ug/kg
1,1,2,2-Tetrachloroethane		ND	50.0	ug/kg
1,2,3-Trichloropropane		ND	50.0	ug/kg
n-Propylbenzene		ND	50.0	ug/kg
Bromobenzene		ND	50.0	ug/kg
1,3,5-Trimethylbenzene		ND	50.0	ug/kg
tert-Butylbenzene		ND	50.0	ug/kg
1,2,4-Trimethylbenzene		ND	50.0	ug/kg
sec-Butylbenzene		ND	50.0	ug/kg
p-Isopropyltoluene		ND	50.0	ug/kg
1,3-Dichlorobenzene		ND	50.0	ug/kg
1,4-Dichlorobenzene		ND	50.0	ug/kg
1,2-Dichlorobenzene		ND	50.0	ug/kg
1,2,3-Trimethylbenzene		ND	50.0	ug/kg
n-Butylbenzene		ND	50.0	ug/kg
Hexachloroethane		ND	50.0	ug/kg
1,2-Dibromo-3-chloropropane		ND	50.0	ug/kg
1,2,4-Trichlorobenzene		ND	50.0	ug/kg
1,2,3-Trichlorobenzene		ND	50.0	ug/kg
Naphthalene		ND	50.0	ug/kg
2-Methylnaphthalene		ND	50.0	ug/kg

Laboratory Control Sample (LCS)

Lab Sample ID: 220909A5.LCSS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 12:07, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		95.0	51.7	123.0
Acetone		101.7	25.3	155.1
Methyl iodide		107.0	56.9	110.8
Carbon disulfide		117.6	57.0	123.0
tert-Methyl butyl ether (MTBE)		102.1	67.5	123.7
Acrylonitrile		113.9	58.7	133.0
2-Butanone (MEK)		113.0	38.7	136.9
Dichlorodifluoromethane		113.6	10.0	171.8
Chloromethane		110.3	30.2	152.7
Vinyl chloride		109.7	45.3	138.7
Bromomethane		90.2	10.0	157.4
Chloroethane		82.5	10.0	169.1
Trichlorofluoromethane		106.4	25.7	157.8
1,1-Dichloroethene		106.8	59.2	137.5
Methylene chloride		102.9	70.5	121.5
trans-1,2-Dichloroethene		109.8	72.5	128.8
1,1-Dichloroethane		109.4	72.5	123.4
cis-1,2-Dichloroethene		109.8	75.0	120.5
Tetrahydrofuran		118.2	48.2	125.7
Chloroform		110.2	74.6	123.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF220909S1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 220909A5.LCSS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 12:07, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		109.4	72.3	122.8
1,1,1-Trichloroethane		109.7	73.8	128.9
4-Methyl-2-pentanone (MIBK)		117.7	60.4	133.8
2-Hexanone		118.9	45.7	141.9
Carbon tetrachloride		112.4	70.1	132.7
Benzene		111.8	74.6	128.9
1,2-Dichloroethane		109.3	73.2	125.4
Trichloroethene		114.5	74.1	127.6
1,2-Dichloropropane		110.4	77.6	124.4
Bromodichloromethane		118.3	76.7	128.4
Dibromomethane		113.1	72.5	127.3
cis-1,3-Dichloropropene		122.4	79.3	128.3
Toluene		110.1	74.8	129.2
trans-1,3-Dichloropropene		123.7	74.5	129.7
1,1,2-Trichloroethane		113.4	71.3	125.7
Tetrachloroethene		114.7	73.0	124.7
trans-1,4-Dichloro-2-butene		132.8	58.3	143.3
Dibromochloromethane		123.9	68.9	132.7
1,2-Dibromoethane		119.1	71.4	129.3
Chlorobenzene		113.0	74.2	128.1
1,1,1,2-Tetrachloroethane		112.3	76.6	133.0
Ethylbenzene		113.3	77.7	130.4
p,m-Xylene		114.6	79.8	132.0
o-Xylene		111.4	79.4	132.3
Styrene		115.8	71.3	119.3
Isopropylbenzene		111.8	70.3	128.2
Bromoform		126.7	54.7	137.4
1,1,2,2-Tetrachloroethane		117.6	65.4	134.9
1,2,3-Trichloropropane		114.6	67.2	154.5
n-Propylbenzene		114.7	77.3	135.2
Bromobenzene		113.1	74.0	132.4
1,3,5-Trimethylbenzene		112.0	75.6	137.0
tert-Butylbenzene		109.2	75.6	134.6
1,2,4-Trimethylbenzene		112.1	76.9	139.1
sec-Butylbenzene		113.6	72.7	135.6
p-Isopropyltoluene		116.1	77.1	140.9
1,3-Dichlorobenzene		117.3	77.3	131.0
1,4-Dichlorobenzene		117.1	33.1	125.8
1,2-Dichlorobenzene		115.4	73.5	132.7
1,2,3-Trimethylbenzene		105.8	70.9	130.2
n-Butylbenzene		121.8	75.0	138.6
Hexachloroethane		114.1	55.5	129.0
1,2-Dibromo-3-chloropropane		128.4	54.1	156.4
1,2,4-Trichlorobenzene		125.4	37.1	131.3
1,2,3-Trichlorobenzene		118.9	59.4	157.9
Naphthalene		118.6	39.3	129.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF220909S1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 220909A5.LCSS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 12:07, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		112.1	10.0	175.9

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220909A5.LCSDS09A, Parent Sample ID: 220909A5.LCSS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 12:30, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		94.0	51.7	123.0	1.0	30.0
Acetone		99.5	25.3	155.1	2.2	30.0
Methyl iodide		110.8	56.9	110.8	3.5	30.0
Carbon disulfide		122.5	57.0	123.0	4.1	30.0
tert-Methyl butyl ether (MTBE)		103.0	67.5	123.7	0.9	30.0
Acrylonitrile		113.3	58.7	133.0	0.5	30.0
2-Butanone (MEK)		108.1	38.7	136.9	4.5	30.0
Dichlorodifluoromethane		116.9	10.0	171.8	2.9	30.0
Chloromethane		107.5	30.2	152.7	2.6	30.0
Vinyl chloride		110.0	45.3	138.7	0.3	30.0
Bromomethane		92.1	10.0	157.4	2.2	30.0
Chloroethane		85.2	10.0	169.1	3.3	30.0
Trichlorofluoromethane		108.3	25.7	157.8	1.7	30.0
1,1-Dichloroethene		109.2	59.2	137.5	2.1	30.0
Methylene chloride		106.0	70.5	121.5	3.0	30.0
trans-1,2-Dichloroethene		110.4	72.5	128.8	0.5	30.0
1,1-Dichloroethane		108.7	72.5	123.4	0.6	30.0
cis-1,2-Dichloroethene		108.4	75.0	120.5	1.3	30.0
Tetrahydrofuran		114.6	48.2	125.7	3.0	30.0
Chloroform		109.1	74.6	123.2	1.0	30.0
Bromochloromethane		108.0	72.3	122.8	1.2	30.0
1,1,1-Trichloroethane		111.6	73.8	128.9	1.7	30.0
4-Methyl-2-pentanone (MIBK)		116.0	60.4	133.8	1.4	30.0
2-Hexanone		114.2	45.7	141.9	4.0	30.0
Carbon tetrachloride		112.6	70.1	132.7	0.2	30.0
Benzene		110.6	74.6	128.9	1.0	30.0
1,2-Dichloroethane		106.1	73.2	125.4	3.0	30.0
Trichloroethene		111.9	74.1	127.6	2.3	30.0
1,2-Dichloropropane		109.9	77.6	124.4	0.5	30.0
Bromodichloromethane		116.7	76.7	128.4	1.4	30.0
Dibromomethane		111.6	72.5	127.3	1.4	30.0
cis-1,3-Dichloropropene		118.6	79.3	128.3	3.1	30.0
Toluene		109.0	74.8	129.2	1.1	30.0
trans-1,3-Dichloropropene		120.6	74.5	129.7	2.6	30.0
1,1,2-Trichloroethane		110.8	71.3	125.7	2.3	30.0
Tetrachloroethene		114.1	73.0	124.7	0.5	30.0
trans-1,4-Dichloro-2-butene		128.0	58.3	143.3	3.7	30.0
Dibromochloromethane		118.9	68.9	132.7	4.1	30.0
1,2-Dibromoethane		115.7	71.4	129.3	2.9	30.0
Chlorobenzene		110.2	74.2	128.1	2.5	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF220909S1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 220909A5.LCSDS09A, Parent Sample ID: 220909A5.LCSS09A

Run in Batch: 220909A5, Run Date: 09/09/2022 12:30, Prep Date: 09/09/2022, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		111.8	76.6	133.0	0.5	30.0
Ethylbenzene		112.1	77.7	130.4	1.1	30.0
p,m-Xylene		111.8	79.8	132.0	2.4	30.0
o-Xylene		110.2	79.4	132.3	1.0	30.0
Styrene		113.5	71.3	119.3	2.0	30.0
Isopropylbenzene		110.9	70.3	128.2	0.8	30.0
Bromoform		122.4	54.7	137.4	3.5	30.0
1,1,2,2-Tetrachloroethane		115.0	65.4	134.9	2.2	30.0
1,2,3-Trichloropropane		112.1	67.2	154.5	2.2	30.0
n-Propylbenzene		113.7	77.3	135.2	0.8	30.0
Bromobenzene		112.1	74.0	132.4	0.9	30.0
1,3,5-Trimethylbenzene		110.2	75.6	137.0	1.6	30.0
tert-Butylbenzene		109.2	75.6	134.6	0.1	30.0
1,2,4-Trimethylbenzene		111.4	76.9	139.1	0.6	30.0
sec-Butylbenzene		111.5	72.7	135.6	1.9	30.0
p-Isopropyltoluene		114.8	77.1	140.9	1.1	30.0
1,3-Dichlorobenzene		113.9	77.3	131.0	3.0	30.0
1,4-Dichlorobenzene		113.3	33.1	125.8	3.3	30.0
1,2-Dichlorobenzene		111.9	73.5	132.7	3.1	30.0
1,2,3-Trimethylbenzene		103.5	70.9	130.2	2.2	30.0
n-Butylbenzene		118.3	75.0	138.6	2.9	30.0
Hexachloroethane		112.0	55.5	129.0	1.8	30.0
1,2-Dibromo-3-chloropropane		122.1	54.1	156.4	5.0	30.0
1,2,4-Trichlorobenzene		123.0	37.1	131.3	1.9	30.0
1,2,3-Trichlorobenzene		117.4	59.4	157.9	1.3	30.0
Naphthalene		116.4	39.3	129.2	1.9	30.0
2-Methylnaphthalene		109.0	10.0	175.9	2.8	30.0

Matrix Spike (MS)

Lab Sample ID: 220909A5.3987908M, Parent Sample ID: S39879.07

Run in Batch: 220909A5, Run Date: 09/09/2022 12:53, Prep Date: 09/09/2022, Matrix: SO, Dilution: 62.9

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		93.8	51.7	123.0
Acetone		90.6	25.3	155.1
Methyl iodide		105.2	56.9	110.8
Carbon disulfide		115.0	57.0	123.0
tert-Methyl butyl ether (MTBE)		93.0	67.5	123.7
Acrylonitrile		102.4	58.7	133.0
2-Butanone (MEK)		96.8	38.7	136.9
Dichlorodifluoromethane		114.0	10.0	171.8
Chloromethane		106.7	30.2	152.7
Vinyl chloride		108.6	45.3	138.7
Bromomethane		95.2	10.0	157.4
Chloroethane		95.0	10.0	169.1
Trichlorofluoromethane		38.4	25.7	157.8
1,1-Dichloroethene		108.9	59.2	137.5

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF220909S1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 220909A5.3987908M, Parent Sample ID: S39879.07

Run in Batch: 220909A5, Run Date: 09/09/2022 12:53, Prep Date: 09/09/2022, Matrix: SO, Dilution: 62.9

Analyte	Flags	% Rec	LCL	UCL
Methylene chloride		92.4	70.5	121.5
trans-1,2-Dichloroethene		110.4	72.5	128.8
1,1-Dichloroethane		108.5	72.5	123.4
cis-1,2-Dichloroethene		106.1	75.0	120.5
Tetrahydrofuran		105.4	48.2	125.7
Chloroform		105.8	74.6	123.2
Bromochloromethane		101.1	72.3	122.8
1,1,1-Trichloroethane		109.2	73.8	128.9
4-Methyl-2-pentanone (MIBK)		100.0	60.4	133.8
2-Hexanone		101.3	45.7	141.9
Carbon tetrachloride		113.1	70.1	132.7
Benzene		109.9	74.6	128.9
1,2-Dichloroethane		100.8	73.2	125.4
Trichloroethene		114.0	74.1	127.6
1,2-Dichloropropane		107.4	77.6	124.4
Bromodichloromethane		108.9	76.7	128.4
Dibromomethane		103.0	72.5	127.3
cis-1,3-Dichloropropene		113.0	79.3	128.3
Toluene		108.3	74.8	129.2
trans-1,3-Dichloropropene		112.5	74.5	129.7
1,1,2-Trichloroethane		103.5	71.3	125.7
Tetrachloroethene		114.1	73.0	124.7
trans-1,4-Dichloro-2-butene		117.7	58.3	143.3
Dibromochloromethane		111.3	68.9	132.7
1,2-Dibromoethane		108.7	71.4	129.3
Chlorobenzene		110.0	74.2	128.1
1,1,1,2-Tetrachloroethane		109.4	76.6	133.0
Ethylbenzene		113.9	77.7	130.4
p,m-Xylene		113.7	79.8	132.0
o-Xylene		110.5	79.4	132.3
Styrene		111.1	71.3	119.3
Isopropylbenzene		115.1	70.3	128.2
Bromoform		109.5	54.7	137.4
1,1,2,2-Tetrachloroethane		105.4	65.4	134.9
1,2,3-Trichloropropane		103.4	67.2	154.5
n-Propylbenzene		116.4	77.3	135.2
Bromobenzene		108.0	74.0	132.4
1,3,5-Trimethylbenzene		113.0	75.6	137.0
tert-Butylbenzene		111.7	75.6	134.6
1,2,4-Trimethylbenzene		112.7	76.9	139.1
sec-Butylbenzene		121.1	72.7	135.6
p-Isopropyltoluene		122.4	77.1	140.9
1,3-Dichlorobenzene		116.9	77.3	131.0
1,4-Dichlorobenzene		115.8	33.1	125.8
1,2-Dichlorobenzene		113.9	73.5	132.7
1,2,3-Trimethylbenzene		108.2	70.9	130.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF220909S1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 220909A5.3987908M, Parent Sample ID: S39879.07

Run in Batch: 220909A5, Run Date: 09/09/2022 12:53, Prep Date: 09/09/2022, Matrix: SO, Dilution: 62.9

Analyte	Flags	% Rec	LCL	UCL
n-Butylbenzene		127.2	75.0	138.6
Hexachloroethane		117.7	55.5	129.0
1,2-Dibromo-3-chloropropane		115.9	54.1	156.4
1,2,4-Trichlorobenzene		125.0	37.1	131.3
1,2,3-Trichlorobenzene		119.1	59.4	157.9
Naphthalene		115.7	39.3	129.2
2-Methylnaphthalene		113.9	10.0	175.9

Matrix Spike Duplicate (MSD)

Lab Sample ID: 220909A5.3987909N, Parent Sample ID: 220909A5.3987908M

Run in Batch: 220909A5, Run Date: 09/09/2022 13:16, Prep Date: 09/09/2022, Matrix: SO, Dilution: 62

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		98.5	51.7	123.0	5.0	30.0
Acetone		102.1	25.3	155.1	11.6	30.0
Methyl iodide	*	112.0	56.9	110.8	6.2	30.0
Carbon disulfide	*	123.8	57.0	123.0	7.4	30.0
tert-Methyl butyl ether (MTBE)		101.1	67.5	123.7	8.3	30.0
Acrylonitrile		112.8	58.7	133.0	9.7	30.0
2-Butanone (MEK)		106.3	38.7	136.9	9.4	30.0
Dichlorodifluoromethane		121.6	10.0	171.8	6.5	30.0
Chloromethane		110.4	30.2	152.7	3.4	30.0
Vinyl chloride		113.5	45.3	138.7	4.3	30.0
Bromomethane		99.4	10.0	157.4	4.3	30.0
Chloroethane		101.9	10.0	169.1	7.0	30.0
Trichlorofluoromethane		48.7	25.7	157.8	23.7	30.0
1,1-Dichloroethene		115.8	59.2	137.5	6.1	30.0
Methylene chloride		100.1	70.5	121.5	7.3	30.0
trans-1,2-Dichloroethene		113.2	72.5	128.8	2.5	30.0
1,1-Dichloroethane		110.0	72.5	123.4	1.4	30.0
cis-1,2-Dichloroethene		107.6	75.0	120.5	1.5	30.0
Tetrahydrofuran		116.7	48.2	125.7	10.2	30.0
Chloroform		106.8	74.6	123.2	1.0	30.0
Bromochloromethane		103.8	72.3	122.8	2.6	30.0
1,1,1-Trichloroethane		113.4	73.8	128.9	3.8	30.0
4-Methyl-2-pentanone (MIBK)		109.7	60.4	133.8	9.3	30.0
2-Hexanone		111.9	45.7	141.9	9.9	30.0
Carbon tetrachloride		116.4	70.1	132.7	2.9	30.0
Benzene		111.6	74.6	128.9	1.5	30.0
1,2-Dichloroethane		104.1	73.2	125.4	3.3	30.0
Trichloroethene		113.2	74.1	127.6	0.7	30.0
1,2-Dichloropropane		108.6	77.6	124.4	1.1	30.0
Bromodichloromethane		110.4	76.7	128.4	1.4	30.0
Dibromomethane		106.2	72.5	127.3	3.0	30.0
cis-1,3-Dichloropropene		114.9	79.3	128.3	1.7	30.0
Toluene		109.8	74.8	129.2	1.4	30.0
trans-1,3-Dichloropropene		116.2	74.5	129.7	3.3	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF220909S1 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 220909A5.3987909N, Parent Sample ID: 220909A5.3987908M

Run in Batch: 220909A5, Run Date: 09/09/2022 13:16, Prep Date: 09/09/2022, Matrix: SO, Dilution: 62

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloroethane		106.8	71.3	125.7	3.2	30.0
Tetrachloroethene		114.5	73.0	124.7	0.4	30.0
trans-1,4-Dichloro-2-butene		123.4	58.3	143.3	4.7	30.0
Dibromochloromethane		113.4	68.9	132.7	1.9	30.0
1,2-Dibromoethane		112.3	71.4	129.3	3.2	30.0
Chlorobenzene		110.5	74.2	128.1	0.5	30.0
1,1,1,2-Tetrachloroethane		110.3	76.6	133.0	0.7	30.0
Ethylbenzene		113.8	77.7	130.4	0.1	30.0
p,m-Xylene		113.3	79.8	132.0	0.3	30.0
o-Xylene		111.3	79.4	132.3	0.7	30.0
Styrene		112.3	71.3	119.3	1.1	30.0
Isopropylbenzene		115.2	70.3	128.2	0.1	30.0
Bromoform		112.4	54.7	137.4	2.6	30.0
1,1,2,2-Tetrachloroethane		111.6	65.4	134.9	5.7	30.0
1,2,3-Trichloropropane		112.5	67.2	154.5	8.4	30.0
n-Propylbenzene		116.1	77.3	135.2	0.2	30.0
Bromobenzene		108.9	74.0	132.4	0.8	30.0
1,3,5-Trimethylbenzene		113.0	75.6	137.0	0.0	30.0
tert-Butylbenzene		112.3	75.6	134.6	0.5	30.0
1,2,4-Trimethylbenzene		112.5	76.9	139.1	0.1	30.0
sec-Butylbenzene		120.4	72.7	135.6	0.6	30.0
p-Isopropyltoluene		120.8	77.1	140.9	1.3	30.0
1,3-Dichlorobenzene		114.0	77.3	131.0	2.6	30.0
1,4-Dichlorobenzene		113.3	33.1	125.8	2.2	30.0
1,2-Dichlorobenzene		111.4	73.5	132.7	2.2	30.0
1,2,3-Trimethylbenzene		107.2	70.9	130.2	0.9	30.0
n-Butylbenzene		123.3	75.0	138.6	3.1	30.0
Hexachloroethane		115.0	55.5	129.0	2.3	30.0
1,2-Dibromo-3-chloropropane		120.6	54.1	156.4	4.0	30.0
1,2,4-Trichlorobenzene		121.1	37.1	131.3	3.2	30.0
1,2,3-Trichlorobenzene		117.0	59.4	157.9	1.8	30.0
Naphthalene		116.6	39.3	129.2	0.8	30.0
2-Methylnaphthalene		112.9	10.0	175.9	0.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS220913S2

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

Blank (BLK)

Lab Sample ID: 220913A9.BLKS13A

Run in Batch: 220913A9, Run Date: 09/13/2022 13:17, Prep Date: 09/13/2022, Matrix: SO, Dilution: 50

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	15	1	ug/kg

Laboratory Control Sample (LCS)

Lab Sample ID: 220913A9.LCSS13A

Run in Batch: 220913A9, Run Date: 09/13/2022 12:15, Prep Date: 09/13/2022, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		75.3	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220913A9.LCSDS13A, Parent Sample ID: 220913A9.LCSS13A

Run in Batch: 220913A9, Run Date: 09/13/2022 12:35, Prep Date: 09/13/2022, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		79.3	70.0	130.0	5.2	30.0

Merit Laboratories Login Checklist

Lab Set ID:S40011

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30112892.04100 / RACER Lansing

Submitted:09/07/2022 12:50 Login User: MMC

Attention: Kaitlyn Hunt

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 FAX:

Email: Kaitlyn.Hunt@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 5.5
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☐ No ☒ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME <i>Tiffany Linder</i>			CONTACT NAME			NAME			
COMPANY <i>Arcadis</i>			COMPANY						
ADDRESS <i>28550 Cabot Drive, Suite 500</i>			ADDRESS						
CITY <i>Novi</i>		STATE <i>MI</i>	ZIP CODE <i>48317</i>		CITY			STATE	ZIP CODE
PHONE NO. <i>810-225-1928</i>	CELL NO. <i>517-861-0138</i>	P.O. NO.		PHONE NO.		E-MAIL ADDRESS			
E-MAIL ADDRESS <i>Tiffany.Linder@arcadis.com</i>		QUOTE NO.		ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)					

[illegible]

RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>Am L.W.C. / Arcadis</i>	DATE	TIME	RELINQUISHED BY: SIGNATURE/ORGANIZATION	<i>Baxter Bank</i>	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	<i>Merit Drop Box</i>	9/7/22		RECEIVED BY: SIGNATURE/ORGANIZATION		9/7/2022	1250
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME	SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL <i>5.5</i>
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME	SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

*Please also email results to: Caitlin.Cisco@arcadis.com and Alex.Villhauer@arcadis.com



Analytical Laboratory Report

Report ID: S40191.01(01)+QC01
Generated on 09/27/2022

Report to
Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 C:947-777-5215 FAX:
Email: Kaitlyn.Hunt@arcadis.com

Additional Contacts: Marina Samp, Tiffany Linder, Caitlin Cisco, Alex Villhauer

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): S40191.01-S40191.05
Project: 30112892.04100/Racer Lansing
Collected Date(s): 09/12/2022
Submitted Date/Time: 09/13/2022 08:45
Sampled by: Austin Westhuis
P.O. #: 30112892.04100

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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).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

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, and 2-chloroethylvinyl ether 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.

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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.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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
N/A	Not Applicable
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S40191.01	MW-22-156_091222	Groundwater	09/12/22 11:05
S40191.02	MW-22-155_091222	Groundwater	09/12/22 12:05
S40191.03	MW-22-157_091222	Groundwater	09/12/22 14:10
S40191.04	MW-22-153_091222	Groundwater	09/12/22 15:00
S40191.05	MW-14-58R_091222	Groundwater	09/12/22 15:35



Analytical Laboratory Report

Lab Sample ID: S40191.01
Sample Tag: MW-22-156_091222
Collected Date/Time: 09/12/2022 11:05
Matrix: Groundwater
COC Reference: 157329

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/22/22 14:30	BML	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/21/22 15:38, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	76	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S40191.02
Sample Tag: MW-22-155_091222
Collected Date/Time: 09/12/2022 12:05
Matrix: Groundwater
COC Reference: 157329

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/22/22 14:30	BML	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/23/22 20:07, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	410	10		ug/L	10	123-91-1	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S40191.03
Sample Tag: MW-22-157_091222
Collected Date/Time: 09/12/2022 14:10
Matrix: Groundwater
COC Reference: 157329

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/22/22 14:30	BML	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/26/22 20:00, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	3	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S40191.04
Sample Tag: MW-22-153_091222
Collected Date/Time: 09/12/2022 15:00
Matrix: Groundwater
COC Reference: 157329

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/22/22 14:30	BML	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/21/22 16:43, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	55	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S40191.05
Sample Tag: MW-14-58R_091222
Collected Date/Time: 09/12/2022 15:35
Matrix: Groundwater
COC Reference: 157329

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/22/22 14:30	BML	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/23/22 19:24, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	187	1		ug/L	1	123-91-1	



Quality Control Report

Report ID: S40191.01(01)+QC01
Generated on 09/27/2022

Report to

Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

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

Phone: O:248-809-4013 C:947-777-5215 FAX:

Report Summary

Lab Sample ID(s): S40191.01-S40191.05
Project: 30112892.04100/Racer Lansing
Submitted Date/Time: 09/13/2022 08:45
Sampled by: Austin Westhuis
P.O. #: 30112892.04100

QC Report Sections

Cover Page (Page 11)
Analysis Summary (Pages 12-16)
Prep Batch Summary (Page 17)
Surrogates per QC Sample (Pages 18-20)
Internal Standards per Lab Sample (Pages 21-25)
Internal Standards per QC Sample (Pages 26-28)
Batch QC Results (Pages 29-31)

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: S40191.01

Sample Tag: MW-22-156_091222

Collected Date/Time: 09/12/2022 11:05

Matrix: Groundwater

COC Reference: 157329

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	09/21/22 15:38	220921A9	VS220921W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S40191.02

Sample Tag: MW-22-155_091222

Collected Date/Time: 09/12/2022 12:05

Matrix: Groundwater

COC Reference: 157329

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	09/23/22 20:07	220923A9	VS220923W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S40191.03

Sample Tag: MW-22-157_091222

Collected Date/Time: 09/12/2022 14:10

Matrix: Groundwater

COC Reference: 157329

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	09/26/22 20:00	220926A9	VS220926W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S40191.04

Sample Tag: MW-22-153_091222

Collected Date/Time: 09/12/2022 15:00

Matrix: Groundwater

COC Reference: 157329

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	09/21/22 16:43	220921A9	VS220921W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S40191.05

Sample Tag: MW-14-58R_091222

Collected Date/Time: 09/12/2022 15:35

Matrix: Groundwater

COC Reference: 157329

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	09/23/22 19:24	220923A9	VS220923W1	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VS220921W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S40191.01	1,4-Dioxane	SW8260B - SIM	09/21/22 15:38	220921A9
S40191.04	1,4-Dioxane	SW8260B - SIM	09/21/22 16:43	220921A9

Organics - Volatiles, Prep Batch ID: VS220923W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S40191.02	1,4-Dioxane	SW8260B - SIM	09/23/22 20:07	220923A9
S40191.05	1,4-Dioxane	SW8260B - SIM	09/23/22 19:24	220923A9

Organics - Volatiles, Prep Batch ID: VS220926W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S40191.03	1,4-Dioxane	SW8260B - SIM	09/26/22 20:00	220926A9

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS220921W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220921A9.BLKW21A

Run in Batch: 220921A9, Run Date: 09/21/2022 15:05, Prep Date: 09/21/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 220921A9.LCSW21A

Run in Batch: 220921A9, Run Date: 09/21/2022 14:04, Prep Date: 09/21/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220921A9.LCSDW21A, Parent Sample ID: 220921A9.LCSW21A

Run in Batch: 220921A9, Run Date: 09/21/2022 14:25, Prep Date: 09/21/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS220923W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220923A9.BLKW23A

Run in Batch: 220923A9, Run Date: 09/23/2022 18:19, Prep Date: 09/23/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 220923A9.LCSW23A

Run in Batch: 220923A9, Run Date: 09/23/2022 16:36, Prep Date: 09/23/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220923A9.LCSDW23A, Parent Sample ID: 220923A9.LCSW23A

Run in Batch: 220923A9, Run Date: 09/23/2022 16:57, Prep Date: 09/23/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS220926W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220926A9.BLKW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 19:39, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 220926A9.LCSW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 18:37, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220926A9.LCSDW26A, Parent Sample ID: 220926A9.LCSW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 18:58, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S40191.01

Sample Tag: MW-22-156_091222

Collected Date/Time: 09/12/2022 11:05

Matrix: Groundwater

COC Reference: 157329

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 220921A9, Run Date: 09/21/2022 15:38, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		96.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S40191.02

Sample Tag: MW-22-155_091222

Collected Date/Time: 09/12/2022 12:05

Matrix: Groundwater

COC Reference: 157329

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 220923A9, Run Date: 09/23/2022 20:07, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		113.4	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S40191.03

Sample Tag: MW-22-157_091222

Collected Date/Time: 09/12/2022 14:10

Matrix: Groundwater

COC Reference: 157329

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 220926A9, Run Date: 09/26/2022 20:00, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		99.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S40191.04

Sample Tag: MW-22-153_091222

Collected Date/Time: 09/12/2022 15:00

Matrix: Groundwater

COC Reference: 157329

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 220921A9, Run Date: 09/21/2022 16:43, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		102.0	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S40191.05

Sample Tag: MW-14-58R_091222

Collected Date/Time: 09/12/2022 15:35

Matrix: Groundwater

COC Reference: 157329

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 220923A9, Run Date: 09/23/2022 19:24, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		118.7	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS220921W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220921A9.BLKW21A

Run in Batch: 220921A9, Run Date: 09/21/2022 15:05, Prep Date: 09/21/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		98.2	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 220921A9.LCSW21A

Run in Batch: 220921A9, Run Date: 09/21/2022 14:04, Prep Date: 09/21/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		94.2	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220921A9.LCSDW21A, Parent Sample ID: 220921A9.LCSW21A

Run in Batch: 220921A9, Run Date: 09/21/2022 14:25, Prep Date: 09/21/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		91.6	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS220923W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220923A9.BLKW23A

Run in Batch: 220923A9, Run Date: 09/23/2022 18:19, Prep Date: 09/23/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		95.9	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 220923A9.LCSW23A

Run in Batch: 220923A9, Run Date: 09/23/2022 16:36, Prep Date: 09/23/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		107.1	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220923A9.LCSDW23A, Parent Sample ID: 220923A9.LCSW23A

Run in Batch: 220923A9, Run Date: 09/23/2022 16:57, Prep Date: 09/23/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		115.2	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS220926W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 220926A9.BLKW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 19:39, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		97.1	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 220926A9.LCSW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 18:37, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		114.6	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220926A9.LCSDW26A, Parent Sample ID: 220926A9.LCSW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 18:58, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		101.3	50.0	200.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS220921W1

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

Blank (BLK)

Lab Sample ID: 220921A9.BLKW21A

Run in Batch: 220921A9, Run Date: 09/21/2022 15:05, Prep Date: 09/21/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.44	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 220921A9.LCSW21A

Run in Batch: 220921A9, Run Date: 09/21/2022 14:04, Prep Date: 09/21/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		90.3	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220921A9.LCSDW21A, Parent Sample ID: 220921A9.LCSW21A

Run in Batch: 220921A9, Run Date: 09/21/2022 14:25, Prep Date: 09/21/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		92.5	70.0	130.0	2.5	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS220923W1

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

Blank (BLK)

Lab Sample ID: 220923A9.BLKW23A

Run in Batch: 220923A9, Run Date: 09/23/2022 18:19, Prep Date: 09/23/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.61	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 220923A9.LCSW23A

Run in Batch: 220923A9, Run Date: 09/23/2022 16:36, Prep Date: 09/23/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		93.8	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220923A9.LCSDW23A, Parent Sample ID: 220923A9.LCSW23A

Run in Batch: 220923A9, Run Date: 09/23/2022 16:57, Prep Date: 09/23/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		92.8	70.0	130.0	1.0	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS220926W1

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

Blank (BLK)

Lab Sample ID: 220926A9.BLKW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 19:39, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.42	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 220926A9.LCSW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 18:37, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		88.3	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 220926A9.LCSDW26A, Parent Sample ID: 220926A9.LCSW26A

Run in Batch: 220926A9, Run Date: 09/26/2022 18:58, Prep Date: 09/26/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		89.1	70.0	130.0	0.9	30.0

Merit Laboratories Login Checklist

Lab Set ID:S40191

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30112892.04100/Racer Lansing

Submitted:09/13/2022 08:45 Login User: BJB

Attention: Kaitlyn Hunt

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 FAX:

Email: Kaitlyn.Hunt@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.4
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☒ Yes ☐ No ☐ N/A	Samples left in 24 hr. drop box
05.	☒ Yes ☐ No ☐ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontracted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____



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

C.O.C. PAGE # 1 OF 1 157329

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Tiffany Linder			
COMPANY Arcadis			
ADDRESS 28550 Cabot Drive, Suite 500			
CITY Navi		STATE MI	ZIP CODE 48377
PHONE NO. 810-225-1928		CELL NO. 517-861-0138	P.O. NO.
E-MAIL ADDRESS			QUOTE NO.

CONTACT NAME		~~IS~~ SAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.	E-MAIL ADDRESS		

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME 30112892.04100/RACER Lansing	SAMPLER(S) - PLEASE PRINT/SIGN NAME Austin Westhuis/Dunkle Wink
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____	
DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____	

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

Containers & Preservatives

[illegible][illegible]

RELINQUISHED BY:	<i>Arcadi's</i>	<i>9/13/22</i>	<i>0845</i>
SIGNATURE/ORGANIZATION			
RECEIVED BY:	<i>Merit Drop Box</i>	<i>9/13/22</i>	
SIGNATURE/ORGANIZATION			
RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			

RELINQUISHED BY:		SIGNATURE/ORGANIZATION		DATE		TIME	
		Ment DropBox		9/13/2022		0846	
RECEIVED BY:		SIGNATURE/ORGANIZATION		DATE		TIME	
		Barbra Ball		9/13/2022		0546	
SEAL NO	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL	4.4		
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS					

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

Rev 1.26.22



Analytical Laboratory Report

Report ID: S41458.01(01)+QC01
Generated on 10/21/2022

Report to
Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 C:947-777-5215 FAX:
Email: Kaitlyn.Hunt@arcadis.com

Additional Contacts: Marina Samp, Tiffany Linder, Caitlin Cisco, Alex Villhauer

Report produced by
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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): S41458.01-S41458.08
Project: 30112892.04100 / Racer Lansing
Collected Date(s): 10/14/2022
Submitted Date/Time: 10/14/2022 16:15
Sampled by: Austin Westhuis
P.O. #: 30112892.04100

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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).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

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, and 2-chloroethylvinyl ether 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.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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
N/A	Not Applicable
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S41458.01	MW-22-157_101422	Groundwater	10/14/22 10:25
S41458.02	MW-22-157_101422 MS	Groundwater	10/14/22 10:25
S41458.03	MW-22-157_101422 MSD	Groundwater	10/14/22 10:25
S41458.04	MW-22-155_101422	Groundwater	10/14/22 11:50
S41458.05	MW-22-153_101422	Groundwater	10/14/22 12:50
S41458.06	MW-22-156_101422	Groundwater	10/14/22 13:35
S41458.07	MW-14-58R_101422	Groundwater	10/14/22 14:20
S41458.08	Dup-01_101422	Groundwater	10/14/22 00:01



Analytical Laboratory Report

Lab Sample ID: S41458.01
Sample Tag: MW-22-157_101422
Collected Date/Time: 10/14/2022 10:25
Matrix: Groundwater
COC Reference: 154889

Sample Containers

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

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/21/22 10:00	KAG	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/20/22 16:03, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	3	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S41458.02
Sample Tag: MW-22-157_101422 MS
Collected Date/Time: 10/14/2022 10:25
Matrix: Groundwater
COC Reference: 154889

Sample Containers

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

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/21/22 10:00	KAG	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/20/22 13:53, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	51	1		ug/L	1	123-91-1	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S41458.03
Sample Tag: MW-22-157_101422 MSD
Collected Date/Time: 10/14/2022 10:25
Matrix: Groundwater
COC Reference: 154889

Sample Containers

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

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/21/22 10:00	KAG	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/20/22 14:14, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	53	1		ug/L	1	123-91-1	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S41458.04
Sample Tag: MW-22-155_101422
Collected Date/Time: 10/14/2022 11:50
Matrix: Groundwater
COC Reference: 154889

Sample Containers

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

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/21/22 10:00	KAG	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/20/22 18:34, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	400	10		ug/L	10	123-91-1	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S41458.05
Sample Tag: MW-22-153_101422
Collected Date/Time: 10/14/2022 12:50
Matrix: Groundwater
COC Reference: 154889

Sample Containers

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

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/21/22 10:00	KAG	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/20/22 18:56, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	52	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S41458.06
Sample Tag: MW-22-156_101422
Collected Date/Time: 10/14/2022 13:35
Matrix: Groundwater
COC Reference: 154889

Sample Containers

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

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/21/22 10:00	KAG	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/20/22 19:17, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	81	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S41458.07
Sample Tag: MW-14-58R_101422
Collected Date/Time: 10/14/2022 14:20
Matrix: Groundwater
COC Reference: 154889

Sample Containers

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

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/21/22 10:00	KAG	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/20/22 19:38, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	173	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S41458.08
Sample Tag: Dup-01_101422
Collected Date/Time: 10/14/2022 00:01
Matrix: Groundwater
COC Reference: 154889

Sample Containers

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

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/21/22 10:00	KAG	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/20/22 20:00, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	173	1		ug/L	1	123-91-1	



Quality Control Report

Report ID: S41458.01(01)+QC01

Generated on 10/21/2022

Report to

Attention: Kaitlyn Hunt

Arcadis

28550 Cabot Drive

Suite 500

Novi, MI 48377

Report Produced by

Merit Laboratories

2680 East Lansing Drive

East Lansing, MI 48823

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

Phone: O:248-809-4013 C:947-777-5215 FAX:

Report Summary

Lab Sample ID(s): S41458.01-S41458.08

Project: 30112892.04100 / Racer Lansing

Submitted Date/Time: 10/14/2022 16:15

Sampled by: Austin Westhuis

P.O. #: 30112892.04100

QC Report Sections

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Analysis Summary (Pages 15-22)

Prep Batch Summary (Page 23)

Surrogates per QC Sample (Page 24)

Internal Standards per Lab Sample (Pages 25-30)

Internal Standards per QC Sample (Page 31)

Batch QC Results (Page 32)

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: S41458.01

Sample Tag: MW-22-157_101422

Collected Date/Time: 10/14/2022 10:25

Matrix: Groundwater

COC Reference: 154889

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/20/22 16:03	221020A9	VS221020W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S41458.02

Sample Tag: MW-22-157_101422 MS

Collected Date/Time: 10/14/2022 10:25

Matrix: Groundwater

COC Reference: 154889

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	10/20/22 13:53	221020A9	VS221020W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S41458.03

Sample Tag: MW-22-157_101422 MSD

Collected Date/Time: 10/14/2022 10:25

Matrix: Groundwater

COC Reference: 154889

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/20/22 14:14	221020A9	VS221020W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S41458.04

Sample Tag: MW-22-155_101422

Collected Date/Time: 10/14/2022 11:50

Matrix: Groundwater

COC Reference: 154889

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/20/22 18:34	221020A9	VS221020W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S41458.05

Sample Tag: MW-22-153_101422

Collected Date/Time: 10/14/2022 12:50

Matrix: Groundwater

COC Reference: 154889

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/20/22 18:56	221020A9	VS221020W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S41458.06

Sample Tag: MW-22-156_101422

Collected Date/Time: 10/14/2022 13:35

Matrix: Groundwater

COC Reference: 154889

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/20/22 19:17	221020A9	VS221020W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S41458.07

Sample Tag: MW-14-58R_101422

Collected Date/Time: 10/14/2022 14:20

Matrix: Groundwater

COC Reference: 154889

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/20/22 19:38	221020A9	VS221020W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S41458.08

Sample Tag: Dup-01_101422

Collected Date/Time: 10/14/2022 00:01

Matrix: Groundwater

COC Reference: 154889

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/20/22 20:00	221020A9	VS221020W1	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VS221020W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S41458.01	1,4-Dioxane	SW8260B - SIM	10/20/22 16:03	221020A9
S41458.02	1,4-Dioxane	SW8260B - SIM	10/20/22 13:53	221020A9
S41458.03	1,4-Dioxane	SW8260B - SIM	10/20/22 14:14	221020A9
S41458.04	1,4-Dioxane	SW8260B - SIM	10/20/22 18:34	221020A9
S41458.05	1,4-Dioxane	SW8260B - SIM	10/20/22 18:56	221020A9
S41458.06	1,4-Dioxane	SW8260B - SIM	10/20/22 19:17	221020A9
S41458.07	1,4-Dioxane	SW8260B - SIM	10/20/22 19:38	221020A9
S41458.08	1,4-Dioxane	SW8260B - SIM	10/20/22 20:00	221020A9

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS221020W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 221020A9.BLKS20A

Run in Batch: 221020A9, Run Date: 10/20/2022 14:55, Prep Date: 10/20/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample (LCS)

Lab Sample ID: 221020A9.LCSS20A

Run in Batch: 221020A9, Run Date: 10/20/2022 12:32, Prep Date: 10/20/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221020A9.LCSDS20A, Parent Sample ID: 221020A9.LCSS20A

Run in Batch: 221020A9, Run Date: 10/20/2022 12:52, Prep Date: 10/20/2022, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S41458.01

Sample Tag: MW-22-157_101422

Collected Date/Time: 10/14/2022 10:25

Matrix: Groundwater

COC Reference: 154889

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 221020A9, Run Date: 10/20/2022 16:03, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		98.4	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S41458.04

Sample Tag: MW-22-155_101422

Collected Date/Time: 10/14/2022 11:50

Matrix: Groundwater

COC Reference: 154889

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 221020A9, Run Date: 10/20/2022 18:34, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		81.8	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S41458.05

Sample Tag: MW-22-153_101422

Collected Date/Time: 10/14/2022 12:50

Matrix: Groundwater

COC Reference: 154889

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 221020A9, Run Date: 10/20/2022 18:56, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		105.6	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S41458.06

Sample Tag: MW-22-156_101422

Collected Date/Time: 10/14/2022 13:35

Matrix: Groundwater

COC Reference: 154889

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 221020A9, Run Date: 10/20/2022 19:17, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		103.3	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S41458.07

Sample Tag: MW-14-58R_101422

Collected Date/Time: 10/14/2022 14:20

Matrix: Groundwater

COC Reference: 154889

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 221020A9, Run Date: 10/20/2022 19:38, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		102.6	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S41458.08

Sample Tag: Dup-01_101422

Collected Date/Time: 10/14/2022 00:01

Matrix: Groundwater

COC Reference: 154889

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 221020A9, Run Date: 10/20/2022 20:00, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		107.5	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS221020W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 221020A9.BLKS20A

Run in Batch: 221020A9, Run Date: 10/20/2022 14:55, Prep Date: 10/20/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		96.2	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 221020A9.LCSS20A

Run in Batch: 221020A9, Run Date: 10/20/2022 12:32, Prep Date: 10/20/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		97.9	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221020A9.LCSDS20A, Parent Sample ID: 221020A9.LCSS20A

Run in Batch: 221020A9, Run Date: 10/20/2022 12:52, Prep Date: 10/20/2022, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		88.5	50.0	200.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS221020W1

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

Blank (BLK)

Lab Sample ID: 221020A9.BLKS20A

Run in Batch: 221020A9, Run Date: 10/20/2022 14:55, Prep Date: 10/20/2022, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.45	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 221020A9.LCSS20A

Run in Batch: 221020A9, Run Date: 10/20/2022 12:32, Prep Date: 10/20/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		89.7	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 221020A9.LCSDS20A, Parent Sample ID: 221020A9.LCSS20A

Run in Batch: 221020A9, Run Date: 10/20/2022 12:52, Prep Date: 10/20/2022, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		85.1	70.0	130.0	5.3	30.0

Merit Laboratories Login Checklist

Lab Set ID:S41458

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30112892.04100 / Racer Lansing

Submitted: 10/14/2022 16:15 Login User: MMC

Attention: Kaitlyn Hunt

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 FAX:

Email: Kaitlyn.Hunt@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.3
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____



Analytical Laboratory Report

Report ID: S45491.01(01)+QC01
Generated on 02/28/2023

Report to

Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 C:947-777-5215 FAX:
Email: Kaitlyn.Hunt@arcadis.com

Additional Contacts: Marina Samp, Tiffany Linder, Caitlin Cisco

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): S45491.01-S45491.14
Project: 30112892 / RACER Lansing
Collected Date(s): 02/15/2023 - 02/16/2023
Submitted Date/Time: 02/17/2023 15:30
Sampled by: Austin Westhuis
P.O. #: 30112892

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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).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

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, and 2-chloroethylvinyl ether 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.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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
N/A	Not Applicable
SW3510C	SW 846 Method 3510C Revision 3 December 1996
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs
SW8270D	SW 846 Method 8270D Revision 4 February 2007



Analytical Laboratory Report

Sample Summary (14 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S45491.01	MW-22-156_021523	Groundwater	02/15/23 10:15
S45491.02	MW-22-153_021523	Groundwater	02/15/23 11:10
S45491.03	MW-22-155_021523	Groundwater	02/15/23 12:20
S45491.04	MW-14-58R_021523	Groundwater	02/15/23 13:25
S45491.05	DUP-01_021523	Groundwater	02/15/23 00:01
S45491.06	MW-22-157_021523	Groundwater	02/15/23 14:30
S45491.07	MW-21-139_021523	Groundwater	02/15/23 15:55
S45491.08	MW-21-140_021623	Groundwater	02/16/23 09:20
S45491.09	MW-21-140_021623 MS	Groundwater	02/16/23 09:20
S45491.10	MW-21-140_021623 MSD	Groundwater	02/16/23 09:20
S45491.11	MW-16-78_021623	Groundwater	02/16/23 11:20
S45491.12	DUP-02_021623	Groundwater	02/16/23 00:01
S45491.13	Trip Blank	Water	02/15/23 00:01
S45491.14	MW-19-123_021623	Groundwater	02/16/23 12:55



Analytical Laboratory Report

Lab Sample ID: S45491.01

Sample Tag: MW-22-156_021523

Collected Date/Time: 02/15/2023 10:15

Matrix: Groundwater

COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/21/23 08:45	ASW	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/24/23 17:20, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	47	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 17:59, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	2	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	16	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	25	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	463	1		ug/L	1	75-34-3	E
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	1	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	

E-Concentration exceeds calibration range



Analytical Laboratory Report

Lab Sample ID: S45491.01 (continued)

Sample Tag: MW-22-156_021523

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 17:59, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 02/24/23 13:26, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S45491.01 (continued)

Sample Tag: MW-22-156_021523

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 02/24/23 13:26, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	20	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	390	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	Not detected	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	Not detected	10		ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S45491.01 (continued)

Sample Tag: MW-22-156_021523

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 02/24/23 13:26, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S45491.02

Sample Tag: MW-22-153_021523

Collected Date/Time: 02/15/2023 11:10

Matrix: Groundwater

COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/21/23 08:45	ASW	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/24/23 17:42, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	26	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 18:22, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	54	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	



Analytical Laboratory Report

Lab Sample ID: S45491.02 (continued)

Sample Tag: MW-22-153_021523

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 18:22, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S45491.03

Sample Tag: MW-22-155_021523

Collected Date/Time: 02/15/2023 12:20

Matrix: Groundwater

COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/21/23 08:45	ASW	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/24/23 18:04, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	36	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 18:46, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S45491.03 (continued)

Sample Tag: MW-22-155_021523

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 18:46, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S45491.04

Sample Tag: MW-14-58R_021523

Collected Date/Time: 02/15/2023 13:25

Matrix: Groundwater

COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/21/23 08:45	ASW	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/24/23 18:25, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	178	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 19:09, Analyst: KAG

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

Lab Sample ID: S45491.04 (continued)

Sample Tag: MW-14-58R_021523

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 19:09, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S45491.05

Sample Tag: DUP-01_021523

Collected Date/Time: 02/15/2023 00:01

Matrix: Groundwater

COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/21/23 08:45	ASW	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/24/23 18:47, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	181	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 19:32, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S45491.05 (continued)

Sample Tag: DUP-01_021523

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 19:32, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S45491.06
Sample Tag: MW-22-157_021523
Collected Date/Time: 02/15/2023 14:30
Matrix: Groundwater
COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/24/23 15:24	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/23/23 14:16, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	5	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S45491.07
Sample Tag: MW-21-139_021523
Collected Date/Time: 02/15/2023 15:55
Matrix: Groundwater
COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/27/23 10:25	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/27/23 18:08, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	2	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S45491.08

Sample Tag: MW-21-140_021623

Collected Date/Time: 02/16/2023 09:20

Matrix: Groundwater

COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR
2	1L Amber	None	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/27/23 10:25	NDK	
BNA Extraction	Completed	SW3510C	02/22/23 13:30	JWR	

Organics - Semi-Volatiles

Semi-Volatile Organics - MDEQ, Method: SW8270D, Run Date: 02/23/23 23:41, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(k)fluoranthene	Not detected	1		ug/L	2	207-08-9	
Benzo(ghi)perylene	Not detected	1		ug/L	2	191-24-2	
Benzo(a)pyrene	Not detected	1		ug/L	2	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	5		ug/L	2	111-44-4	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
Chrysene	Not detected	1		ug/L	2	218-01-9	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	20		ug/L	2	3/4-CRESOL	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
Dibenzo(ah)anthracene	Not detected	2		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
1,2-Dichlorobenzene	Not detected	1		ug/L	2	95-50-1	
1,3-Dichlorobenzene	Not detected	1		ug/L	2	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	2	106-46-7	
3,3'-Dichlorobenzidine	Not detected	5		ug/L	2	91-94-1	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
4,6-Dinitro-2-methylphenol	Not detected	20		ug/L	2	534-52-1	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	



Analytical Laboratory Report

Lab Sample ID: S45491.08 (continued)

Sample Tag: MW-21-140_021623

Semi-Volatile Organics - MDEQ, Method: SW8270D, Run Date: 02/23/23 23:41, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
1,2-Diphenylhydrazine*	Not detected	5		ug/L	2	122-66-7	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	10		ug/L	2	87-68-3	
Hexachlorocyclopentadiene*	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	2		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
Nitrobenzene	Not detected	5		ug/L	2	98-95-3	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	5		ug/L	2	621-64-7	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	2	120-82-1	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/28/23 15:13, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 19:56, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	

Lab Sample ID: S45491.08 (continued)

Sample Tag: MW-21-140_021623

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 19:56, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	



Analytical Laboratory Report

Lab Sample ID: S45491.08 (continued)

Sample Tag: MW-21-140_021623

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 19:56, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S45491.09
Sample Tag: MW-21-140_021623 MS
Collected Date/Time: 02/16/2023 09:20
Matrix: Groundwater
COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR
2	1L Amber	None	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/21/23 08:45	ASW	
BNA Extraction	Completed	SW3510C	02/22/23 13:30	JWR	

Organics - Semi-Volatiles

Semi-Volatile Organics - MDEQ, Method: SW8270D, Run Date: 02/24/23 00:11, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	33	5		ug/L	2	83-32-9	1
Acenaphthylene	34	5		ug/L	2	208-96-8	1
Anthracene	35	5		ug/L	2	120-12-7	1
Benzo(a)anthracene	34	1		ug/L	2	56-55-3	1
Benzo(b)fluoranthene	36	1		ug/L	2	205-99-2	1
Benzo(k)fluoranthene	34	1		ug/L	2	207-08-9	1
Benzo(ghi)perylene	33	1		ug/L	2	191-24-2	1
Benzo(a)pyrene	34	1		ug/L	2	50-32-8	1
bis(2-Chloroethoxy)methane	32	5		ug/L	2	111-91-1	1
bis(2-Chloroethyl)ether	29	5		ug/L	2	111-44-4	1
bis(2-Chloroisopropyl)ether*	27	5		ug/L	2	108-60-1	1
bis(2-Ethylhexyl)phthalate	33	5		ug/L	2	117-81-7	1
4-Bromophenyl phenyl ether	35	5		ug/L	2	101-55-3	1
Butyl benzyl phthalate	33	5		ug/L	2	85-68-7	1
4-Chloroaniline	21	10		ug/L	2	106-47-8	1
2-Chloronaphthalene	33	5		ug/L	2	91-58-7	1
4-Chloro-3-methylphenol	32	5		ug/L	2	59-50-7	1
2-Chlorophenol	27	10		ug/L	2	95-57-8	1
4-Chlorophenyl phenyl ether	34	5		ug/L	2	7005-72-3	1
Chrysene	33	1		ug/L	2	218-01-9	1
3-, 4-Methylphenol (p,m-Cresol)	24	20		ug/L	2	3/4-CRESOL	1
2-Methylphenol (o-Cresol)	25	10		ug/L	2	95-48-7	1
Dibenzo(ah)anthracene	34	2		ug/L	2	53-70-3	1
Dibenzofuran	34	4		ug/L	2	132-64-9	1
di-n-Butyl phthalate	35	5		ug/L	2	84-74-2	1
1,2-Dichlorobenzene	29	1		ug/L	2	95-50-1	1
1,3-Dichlorobenzene	28	1		ug/L	2	541-73-1	1
1,4-Dichlorobenzene	28	1		ug/L	2	106-46-7	1
3,3'-Dichlorobenzidine	28	5		ug/L	2	91-94-1	1
2,4-Dichlorophenol	32	10		ug/L	2	120-83-2	1
Diethyl phthalate	34	5		ug/L	2	84-66-2	1
2,4-Dimethylphenol	31	5		ug/L	2	105-67-9	1
Dimethyl phthalate	34	5		ug/L	2	131-11-3	1
4,6-Dinitro-2-methylphenol	30	20		ug/L	2	534-52-1	1

1-Sample spiked at 0.050 mg/l



Analytical Laboratory Report

Lab Sample ID: S45491.09 (continued)

Sample Tag: MW-21-140_021623 MS

Semi-Volatile Organics - MDEQ, Method: SW8270D, Run Date: 02/24/23 00:11, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	1
2,4-Dinitrotoluene	34	5		ug/L	2	121-14-2	1
2,6-Dinitrotoluene	34	5		ug/L	2	606-20-2	1
1,2-Diphenylhydrazine*	33	5		ug/L	2	122-66-7	1
di-n-Octyl phthalate	36	5		ug/L	2	117-84-0	1
Fluoranthene	34	1		ug/L	2	206-44-0	1
Fluorene	34	5		ug/L	2	86-73-7	1
Hexachlorobenzene	34	5		ug/L	2	118-74-1	1
Hexachlorobutadiene	33	10		ug/L	2	87-68-3	1
Hexachlorocyclopentadiene*	37	5		ug/L	2	77-47-4	1
Hexachloroethane	28	5		ug/L	2	67-72-1	1
Indeno(1,2,3-cd)pyrene	34	2		ug/L	2	193-39-5	1
Isophorone	32	5		ug/L	2	78-59-1	1
2-Methylnaphthalene	33	5		ug/L	2	91-57-6	1
Naphthalene	32	5		ug/L	2	91-20-3	1
2-Nitroaniline	33	25		ug/L	2	88-74-4	1
3-Nitroaniline	26	25		ug/L	2	99-09-2	1
4-Nitroaniline	30	25		ug/L	2	100-01-6	1
Nitrobenzene	30	5		ug/L	2	98-95-3	1
2-Nitrophenol	32	5		ug/L	2	88-75-5	1
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	1
N-Nitrosodiphenylamine	35	5		ug/L	2	86-30-6	1
N-Nitrosodi-n-propylamine	31	5		ug/L	2	621-64-7	1
Pentachlorophenol	26	5		ug/L	2	87-86-5	1
Phenanthrene	33	2		ug/L	2	85-01-8	1
Phenol	13	5		ug/L	2	108-95-2	1
Pyrene	34	5		ug/L	2	129-00-0	1
1,2,4-Trichlorobenzene	32	5		ug/L	2	120-82-1	1
2,4,5-Trichlorophenol	34	5		ug/L	2	95-95-4	1
2,4,6-Trichlorophenol	32	4		ug/L	2	88-06-2	1

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/28/23 12:48, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	43	1		ug/L	1	123-91-1	2

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 23:27, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	64	10		ug/L	1	60-29-7	2
Acetone	64	50		ug/L	1	67-64-1	2
Methyl iodide	49	1		ug/L	1	74-88-4	2
Carbon disulfide	44	5		ug/L	1	75-15-0	2
tert-Methyl butyl ether (MTBE)	55	5		ug/L	1	1634-04-4	2
Acrylonitrile	62	2		ug/L	1	107-13-1	2
2-Butanone (MEK)	68	25		ug/L	1	78-93-3	2
Dichlorodifluoromethane	43	5		ug/L	1	75-71-8	2
Chloromethane	54	5		ug/L	1	74-87-3	2
Vinyl chloride	49	1		ug/L	1	75-01-4	2

1-Sample spiked at 0.050 mg/l

2-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S45491.09 (continued)

Sample Tag: MW-21-140_021623 MS

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 23:27, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Bromomethane	54	5		ug/L	1	74-83-9	1
Chloroethane	54	5		ug/L	1	75-00-3	1
Trichlorofluoromethane	47	1		ug/L	1	75-69-4	1
1,1-Dichloroethene	53	1		ug/L	1	75-35-4	1
Methylene chloride	52	5		ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	48	1		ug/L	1	156-60-5	1
1,1-Dichloroethane	50	1		ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	50	1		ug/L	1	156-59-2	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Chloroform	50	1		ug/L	1	67-66-3	1
Bromochloromethane	51	1		ug/L	1	74-97-5	1
1,1,1-Trichloroethane	46	1		ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	55	50		ug/L	1	108-10-1	1
2-Hexanone	56	50		ug/L	1	591-78-6	1
Carbon tetrachloride	42	1		ug/L	1	56-23-5	1
Benzene	46	1		ug/L	1	71-43-2	1
1,2-Dichloroethane	48	1		ug/L	1	107-06-2	1
Trichloroethene	46	1		ug/L	1	79-01-6	1
1,2-Dichloropropane	48	1		ug/L	1	78-87-5	1
Bromodichloromethane	47	1		ug/L	1	75-27-4	1
Dibromomethane	50	5		ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	47	1		ug/L	1	10061-01-5	1
Toluene	47	1		ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	47	1		ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	49	1		ug/L	1	79-00-5	1
Tetrachloroethene	46	1		ug/L	1	127-18-4	1
trans-1,4-Dichloro-2-butene	41	1		ug/L	1	110-57-6	1
Dibromochloromethane	45	5		ug/L	1	124-48-1	1
1,2-Dibromoethane	48	1		ug/L	1	106-93-4	1
Chlorobenzene	46	1		ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	45	1		ug/L	1	630-20-6	1
Ethylbenzene	47	1		ug/L	1	100-41-4	1
p,m-Xylene*	91	2		ug/L	1		1
o-Xylene	46	1		ug/L	1	95-47-6	1
Styrene	46	1		ug/L	1	100-42-5	1
Isopropylbenzene	46	5		ug/L	1	98-82-8	1
Bromoform	46	1		ug/L	1	75-25-2	1
1,1,2,2-Tetrachloroethane	51	1		ug/L	1	79-34-5	1
1,2,3-Trichloropropane	49	1		ug/L	1	96-18-4	1
n-Propylbenzene	47	1		ug/L	1	103-65-1	1
Bromobenzene	47	1		ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	46	1		ug/L	1	108-67-8	1
tert-Butylbenzene	45	1		ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	47	1		ug/L	1	95-63-6	1
sec-Butylbenzene	47	1		ug/L	1	135-98-8	1
p-Isopropyltoluene	48	5		ug/L	1	99-87-6	1
1,3-Dichlorobenzene	47	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	48	1		ug/L	1	106-46-7	1
1,2-Dichlorobenzene	47	1		ug/L	1	95-50-1	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S45491.09 (continued)
Sample Tag: MW-21-140_021623 MS

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 23:27, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,3-Trimethylbenzene	47	1		ug/L	1	526-73-8	1
n-Butylbenzene	48	1		ug/L	1	104-51-8	1
Hexachloroethane	43	5		ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	52	5		ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	50	5		ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	49	5		ug/L	1	87-61-6	1
Naphthalene	50	5		ug/L	1	91-20-3	1
2-Methylnaphthalene	49	5		ug/L	1	91-57-6	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S45491.10

Sample Tag: MW-21-140_021623 MSD

Collected Date/Time: 02/16/2023 09:20

Matrix: Groundwater

COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR
2	1L Amber	None	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/21/23 08:45	ASW	
BNA Extraction	Completed	SW3510C	02/22/23 13:30	JWR	

Organics - Semi-Volatiles

Semi-Volatile Organics - MDEQ, Method: SW8270D, Run Date: 02/24/23 00:41, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	35	5		ug/L	2	83-32-9	1
Acenaphthylene	36	5		ug/L	2	208-96-8	1
Anthracene	38	5		ug/L	2	120-12-7	1
Benzo(a)anthracene	38	1		ug/L	2	56-55-3	1
Benzo(b)fluoranthene	39	1		ug/L	2	205-99-2	1
Benzo(k)fluoranthene	37	1		ug/L	2	207-08-9	1
Benzo(ghi)perylene	35	1		ug/L	2	191-24-2	1
Benzo(a)pyrene	37	1		ug/L	2	50-32-8	1
bis(2-Chloroethoxy)methane	33	5		ug/L	2	111-91-1	1
bis(2-Chloroethyl)ether	31	5		ug/L	2	111-44-4	1
bis(2-Chloroisopropyl)ether*	28	5		ug/L	2	108-60-1	1
bis(2-Ethylhexyl)phthalate	37	5		ug/L	2	117-81-7	1
4-Bromophenyl phenyl ether	37	5		ug/L	2	101-55-3	1
Butyl benzyl phthalate	37	5		ug/L	2	85-68-7	1
4-Chloroaniline	20	10		ug/L	2	106-47-8	1
2-Chloronaphthalene	34	5		ug/L	2	91-58-7	1
4-Chloro-3-methylphenol	33	5		ug/L	2	59-50-7	1
2-Chlorophenol	29	10		ug/L	2	95-57-8	1
4-Chlorophenyl phenyl ether	37	5		ug/L	2	7005-72-3	1
Chrysene	37	1		ug/L	2	218-01-9	1
3-, 4-Methylphenol (p,m-Cresol)	25	20		ug/L	2	3/4-CRESOL	1
2-Methylphenol (o-Cresol)	27	10		ug/L	2	95-48-7	1
Dibenzo(ah)anthracene	35	2		ug/L	2	53-70-3	1
Dibenzofuran	36	4		ug/L	2	132-64-9	1
di-n-Butyl phthalate	40	5		ug/L	2	84-74-2	1
1,2-Dichlorobenzene	31	1		ug/L	2	95-50-1	1
1,3-Dichlorobenzene	31	1		ug/L	2	541-73-1	1
1,4-Dichlorobenzene	30	1		ug/L	2	106-46-7	1
3,3'-Dichlorobenzidine	30	5		ug/L	2	91-94-1	1
2,4-Dichlorophenol	34	10		ug/L	2	120-83-2	1
Diethyl phthalate	38	5		ug/L	2	84-66-2	1
2,4-Dimethylphenol	32	5		ug/L	2	105-67-9	1
Dimethyl phthalate	37	5		ug/L	2	131-11-3	1
4,6-Dinitro-2-methylphenol	34	20		ug/L	2	534-52-1	1

1-Sample spiked at 0.050 mg/l

Lab Sample ID: S45491.10 (continued)

Sample Tag: MW-21-140_021623 MSD

Semi-Volatile Organics - MDEQ, Method: SW8270D, Run Date: 02/24/23 00:41, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2,4-Dinitrophenol	26	25		ug/L	2	51-28-5	1
2,4-Dinitrotoluene	38	5		ug/L	2	121-14-2	1
2,6-Dinitrotoluene	37	5		ug/L	2	606-20-2	1
1,2-Diphenylhydrazine*	36	5		ug/L	2	122-66-7	1
di-n-Octyl phthalate	38	5		ug/L	2	117-84-0	1
Fluoranthene	38	1		ug/L	2	206-44-0	1
Fluorene	37	5		ug/L	2	86-73-7	1
Hexachlorobenzene	38	5		ug/L	2	118-74-1	1
Hexachlorobutadiene	33	10		ug/L	2	87-68-3	1
Hexachlorocyclopentadiene*	39	5		ug/L	2	77-47-4	1
Hexachloroethane	29	5		ug/L	2	67-72-1	1
Indeno(1,2,3-cd)pyrene	36	2		ug/L	2	193-39-5	1
Isophorone	34	5		ug/L	2	78-59-1	1
2-Methylnaphthalene	34	5		ug/L	2	91-57-6	1
Naphthalene	34	5		ug/L	2	91-20-3	1
2-Nitroaniline	35	25		ug/L	2	88-74-4	1
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	1
4-Nitroaniline	32	25		ug/L	2	100-01-6	1
Nitrobenzene	31	5		ug/L	2	98-95-3	1
2-Nitrophenol	33	5		ug/L	2	88-75-5	1
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	1
N-Nitrosodiphenylamine	37	5		ug/L	2	86-30-6	1
N-Nitrosodi-n-propylamine	32	5		ug/L	2	621-64-7	1
Pentachlorophenol	29	5		ug/L	2	87-86-5	1
Phenanthrene	37	2		ug/L	2	85-01-8	1
Phenol	13	5		ug/L	2	108-95-2	1
Pyrene	37	5		ug/L	2	129-00-0	1
1,2,4-Trichlorobenzene	33	5		ug/L	2	120-82-1	1
2,4,5-Trichlorophenol	37	5		ug/L	2	95-95-4	1
2,4,6-Trichlorophenol	35	4		ug/L	2	88-06-2	1

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/28/23 13:08, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	55	1		ug/L	1	123-91-1	2

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 23:50, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	58	10		ug/L	1	60-29-7	2
Acetone	55	50		ug/L	1	67-64-1	2
Methyl iodide	46	1		ug/L	1	74-88-4	2
Carbon disulfide	42	5		ug/L	1	75-15-0	2
tert-Methyl butyl ether (MTBE)	49	5		ug/L	1	1634-04-4	2
Acrylonitrile	53	2		ug/L	1	107-13-1	2
2-Butanone (MEK)	54	25		ug/L	1	78-93-3	2
Dichlorodifluoromethane	36	5		ug/L	1	75-71-8	2
Chloromethane	48	5		ug/L	1	74-87-3	2
Vinyl chloride	46	1		ug/L	1	75-01-4	2

1-Sample spiked at 0.050 mg/l

2-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S45491.10 (continued)

Sample Tag: MW-21-140_021623 MSD

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 23:50, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Bromomethane	50	5		ug/L	1	74-83-9	1
Chloroethane	52	5		ug/L	1	75-00-3	1
Trichlorofluoromethane	43	1		ug/L	1	75-69-4	1
1,1-Dichloroethene	44	1		ug/L	1	75-35-4	1
Methylene chloride	48	5		ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	45	1		ug/L	1	156-60-5	1
1,1-Dichloroethane	46	1		ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	46	1		ug/L	1	156-59-2	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Chloroform	46	1		ug/L	1	67-66-3	1
Bromochloromethane	47	1		ug/L	1	74-97-5	1
1,1,1-Trichloroethane	43	1		ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	1
2-Hexanone	52	50		ug/L	1	591-78-6	1
Carbon tetrachloride	39	1		ug/L	1	56-23-5	1
Benzene	44	1		ug/L	1	71-43-2	1
1,2-Dichloroethane	45	1		ug/L	1	107-06-2	1
Trichloroethene	42	1		ug/L	1	79-01-6	1
1,2-Dichloropropane	46	1		ug/L	1	78-87-5	1
Bromodichloromethane	45	1		ug/L	1	75-27-4	1
Dibromomethane	47	5		ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	46	1		ug/L	1	10061-01-5	1
Toluene	44	1		ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	45	1		ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	48	1		ug/L	1	79-00-5	1
Tetrachloroethene	42	1		ug/L	1	127-18-4	1
trans-1,4-Dichloro-2-butene	40	1		ug/L	1	110-57-6	1
Dibromochloromethane	44	5		ug/L	1	124-48-1	1
1,2-Dibromoethane	46	1		ug/L	1	106-93-4	1
Chlorobenzene	44	1		ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	44	1		ug/L	1	630-20-6	1
Ethylbenzene	44	1		ug/L	1	100-41-4	1
p,m-Xylene*	86	2		ug/L	1		1
o-Xylene	44	1		ug/L	1	95-47-6	1
Styrene	44	1		ug/L	1	100-42-5	1
Isopropylbenzene	43	5		ug/L	1	98-82-8	1
Bromoform	44	1		ug/L	1	75-25-2	1
1,1,2,2-Tetrachloroethane	49	1		ug/L	1	79-34-5	1
1,2,3-Trichloropropane	48	1		ug/L	1	96-18-4	1
n-Propylbenzene	43	1		ug/L	1	103-65-1	1
Bromobenzene	46	1		ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	43	1		ug/L	1	108-67-8	1
tert-Butylbenzene	42	1		ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	44	1		ug/L	1	95-63-6	1
sec-Butylbenzene	43	1		ug/L	1	135-98-8	1
p-Isopropyltoluene	43	5		ug/L	1	99-87-6	1
1,3-Dichlorobenzene	45	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	45	1		ug/L	1	106-46-7	1
1,2-Dichlorobenzene	45	1		ug/L	1	95-50-1	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S45491.10 (continued)
Sample Tag: MW-21-140_021623 MSD

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 23:50, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,3-Trimethylbenzene	45	1		ug/L	1	526-73-8	1
n-Butylbenzene	44	1		ug/L	1	104-51-8	1
Hexachloroethane	41	5		ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	49	5		ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	47	5		ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	49	5		ug/L	1	87-61-6	1
Naphthalene	49	5		ug/L	1	91-20-3	1
2-Methylnaphthalene	50	5		ug/L	1	91-57-6	1

1-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S45491.11

Sample Tag: MW-16-78_021623

Collected Date/Time: 02/16/2023 11:20

Matrix: Groundwater

COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR
2	1L Amber	None	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/21/23 08:45	ASW	
BNA Extraction	Completed	SW3510C	02/22/23 13:30	JWR	

Organics - Semi-Volatiles

Semi-Volatile Organics - MDEQ, Method: SW8270D, Run Date: 02/24/23 01:10, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(k)fluoranthene	Not detected	1		ug/L	2	207-08-9	
Benzo(ghi)perylene	Not detected	1		ug/L	2	191-24-2	
Benzo(a)pyrene	Not detected	1		ug/L	2	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	5		ug/L	2	111-44-4	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
Chrysene	Not detected	1		ug/L	2	218-01-9	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	20		ug/L	2	3/4-CRESOL	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
Dibenzo(ah)anthracene	Not detected	2		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
1,2-Dichlorobenzene	Not detected	1		ug/L	2	95-50-1	
1,3-Dichlorobenzene	Not detected	1		ug/L	2	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	2	106-46-7	
3,3'-Dichlorobenzidine	Not detected	5		ug/L	2	91-94-1	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
4,6-Dinitro-2-methylphenol	Not detected	20		ug/L	2	534-52-1	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	

Lab Sample ID: S45491.11 (continued)

Sample Tag: MW-16-78_021623

Semi-Volatile Organics - MDEQ, Method: SW8270D, Run Date: 02/24/23 01:10, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
1,2-Diphenylhydrazine*	Not detected	5		ug/L	2	122-66-7	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	10		ug/L	2	87-68-3	
Hexachlorocyclopentadiene*	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	2		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
Nitrobenzene	Not detected	5		ug/L	2	98-95-3	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	5		ug/L	2	621-64-7	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	2	120-82-1	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/27/23 18:51, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	1	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 20:19, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	



Analytical Laboratory Report

Lab Sample ID: S45491.11 (continued)

Sample Tag: MW-16-78_021623

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 20:19, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	



Analytical Laboratory Report

Lab Sample ID: S45491.11 (continued)

Sample Tag: MW-16-78_021623

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 20:19, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S45491.12

Sample Tag: DUP-02_021623

Collected Date/Time: 02/16/2023 00:01

Matrix: Groundwater

COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR
2	1L Amber	None	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/21/23 08:45	ASW	
BNA Extraction	Completed	SW3510C	02/22/23 13:30	JWR	

Organics - Semi-Volatiles

Semi-Volatile Organics - MDEQ, Method: SW8270D, Run Date: 02/24/23 01:40, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	5		ug/L	2	83-32-9	
Acenaphthylene	Not detected	5		ug/L	2	208-96-8	
Anthracene	Not detected	5		ug/L	2	120-12-7	
Benzo(a)anthracene	Not detected	1		ug/L	2	56-55-3	
Benzo(b)fluoranthene	Not detected	1		ug/L	2	205-99-2	
Benzo(k)fluoranthene	Not detected	1		ug/L	2	207-08-9	
Benzo(ghi)perylene	Not detected	1		ug/L	2	191-24-2	
Benzo(a)pyrene	Not detected	1		ug/L	2	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	5		ug/L	2	111-91-1	
bis(2-Chloroethyl)ether	Not detected	5		ug/L	2	111-44-4	
bis(2-Chloroisopropyl)ether*	Not detected	5		ug/L	2	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	5		ug/L	2	117-81-7	
4-Bromophenyl phenyl ether	Not detected	5		ug/L	2	101-55-3	
Butyl benzyl phthalate	Not detected	5		ug/L	2	85-68-7	
4-Chloroaniline	Not detected	10		ug/L	2	106-47-8	
2-Chloronaphthalene	Not detected	5		ug/L	2	91-58-7	
4-Chloro-3-methylphenol	Not detected	5		ug/L	2	59-50-7	
2-Chlorophenol	Not detected	10		ug/L	2	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	5		ug/L	2	7005-72-3	
Chrysene	Not detected	1		ug/L	2	218-01-9	
3-, 4-Methylphenol (p,m-Cresol)	Not detected	20		ug/L	2	3/4-CRESOL	
2-Methylphenol (o-Cresol)	Not detected	10		ug/L	2	95-48-7	
Dibenzo(ah)anthracene	Not detected	2		ug/L	2	53-70-3	
Dibenzofuran	Not detected	4		ug/L	2	132-64-9	
di-n-Butyl phthalate	Not detected	5		ug/L	2	84-74-2	
1,2-Dichlorobenzene	Not detected	1		ug/L	2	95-50-1	
1,3-Dichlorobenzene	Not detected	1		ug/L	2	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	2	106-46-7	
3,3'-Dichlorobenzidine	Not detected	5		ug/L	2	91-94-1	
2,4-Dichlorophenol	Not detected	10		ug/L	2	120-83-2	
Diethyl phthalate	Not detected	5		ug/L	2	84-66-2	
2,4-Dimethylphenol	Not detected	5		ug/L	2	105-67-9	
Dimethyl phthalate	Not detected	5		ug/L	2	131-11-3	
4,6-Dinitro-2-methylphenol	Not detected	20		ug/L	2	534-52-1	
2,4-Dinitrophenol	Not detected	25		ug/L	2	51-28-5	

Lab Sample ID: S45491.12 (continued)

Sample Tag: DUP-02_021623

Semi-Volatile Organics - MDEQ, Method: SW8270D, Run Date: 02/24/23 01:40, Analyst: PL (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2,4-Dinitrotoluene	Not detected	5		ug/L	2	121-14-2	
2,6-Dinitrotoluene	Not detected	5		ug/L	2	606-20-2	
1,2-Diphenylhydrazine*	Not detected	5		ug/L	2	122-66-7	
di-n-Octyl phthalate	Not detected	5		ug/L	2	117-84-0	
Fluoranthene	Not detected	1		ug/L	2	206-44-0	
Fluorene	Not detected	5		ug/L	2	86-73-7	
Hexachlorobenzene	Not detected	5		ug/L	2	118-74-1	
Hexachlorobutadiene	Not detected	10		ug/L	2	87-68-3	
Hexachlorocyclopentadiene*	Not detected	5		ug/L	2	77-47-4	
Hexachloroethane	Not detected	5		ug/L	2	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	2		ug/L	2	193-39-5	
Isophorone	Not detected	5		ug/L	2	78-59-1	
2-Methylnaphthalene	Not detected	5		ug/L	2	91-57-6	
Naphthalene	Not detected	5		ug/L	2	91-20-3	
2-Nitroaniline	Not detected	25		ug/L	2	88-74-4	
3-Nitroaniline	Not detected	25		ug/L	2	99-09-2	
4-Nitroaniline	Not detected	25		ug/L	2	100-01-6	
Nitrobenzene	Not detected	5		ug/L	2	98-95-3	
2-Nitrophenol	Not detected	5		ug/L	2	88-75-5	
4-Nitrophenol	Not detected	25		ug/L	2	100-02-7	
N-Nitrosodiphenylamine	Not detected	5		ug/L	2	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	5		ug/L	2	621-64-7	
Pentachlorophenol	Not detected	5		ug/L	2	87-86-5	
Phenanthrene	Not detected	2		ug/L	2	85-01-8	
Phenol	Not detected	5		ug/L	2	108-95-2	
Pyrene	Not detected	5		ug/L	2	129-00-0	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	2	120-82-1	
2,4,5-Trichlorophenol	Not detected	5		ug/L	2	95-95-4	
2,4,6-Trichlorophenol	Not detected	4		ug/L	2	88-06-2	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/27/23 19:13, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	1	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 20:43, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	



Analytical Laboratory Report

Lab Sample ID: S45491.12 (continued)

Sample Tag: DUP-02_021623

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 20:43, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	



Analytical Laboratory Report

Lab Sample ID: S45491.12 (continued)

Sample Tag: DUP-02_021623

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 20:43, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S45491.13

Sample Tag: Trip Blank

Collected Date/Time: 02/15/2023 00:01

Matrix: Water

COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/21/23 08:45	ASW	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 21:06, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S45491.13 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 02/20/23 21:06, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S45491.14
Sample Tag: MW-19-123_021623
Collected Date/Time: 02/16/2023 12:55
Matrix: Groundwater
COC Reference: 152333

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	5.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	02/24/23 15:24	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 02/23/23 14:38, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	26	1		ug/L	1	123-91-1	



Quality Control Report

Report ID: S45491.01(01)+QC01

Generated on 02/28/2023

Report to

Attention: Kaitlyn Hunt

Arcadis

28550 Cabot Drive

Suite 500

Novi, MI 48377

Report Produced by

Merit Laboratories

2680 East Lansing Drive

East Lansing, MI 48823

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

Phone: O:248-809-4013 C:947-777-5215 FAX:

Report Summary

Lab Sample ID(s): S45491.01-S45491.14

Project: 30112892 / RACER Lansing

Submitted Date/Time: 02/17/2023 15:30

Sampled by: Austin Westhuis

P.O. #: 30112892

QC Report Sections

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Analysis Summary (Pages 44-57)

Prep Batch Summary (Pages 58-59)

Surrogates per Lab Sample (Pages 60-68)

Surrogates per QC Sample (Pages 69-76)

Internal Standards per Lab Sample (Pages 77-88)

Internal Standards per QC Sample (Pages 89-96)

Batch QC Results (Pages 97-121)

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: S45491.01

Sample Tag: MW-22-156_021523

Collected Date/Time: 02/15/2023 10:15

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/24/23 17:20	230224A9	VS230224W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 17:59	230220A7	VF230220W2	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List (Replicate 01)	SW5030C/8260C	02/24/23 13:26	230223C7	VF230223W3	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S45491.02

Sample Tag: MW-22-153_021523

Collected Date/Time: 02/15/2023 11:10

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/24/23 17:42	230224A9	VS230224W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 18:22	230220A7	VF230220W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S45491.03

Sample Tag: MW-22-155_021523

Collected Date/Time: 02/15/2023 12:20

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/24/23 18:04	230224A9	VS230224W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 18:46	230220A7	VF230220W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S45491.04

Sample Tag: MW-14-58R_021523

Collected Date/Time: 02/15/2023 13:25

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/24/23 18:25	230224A9	VS230224W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 19:09	230220A7	VF230220W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S45491.05

Sample Tag: DUP-01_021523

Collected Date/Time: 02/15/2023 00:01

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/24/23 18:47	230224A9	VS230224W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 19:32	230220A7	VF230220W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S45491.06

Sample Tag: MW-22-157_021523

Collected Date/Time: 02/15/2023 14:30

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/23/23 14:16	230223A9	VS230223W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S45491.07

Sample Tag: MW-21-139_021523

Collected Date/Time: 02/15/2023 15:55

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/27/23 18:08	230227A9	VS230227W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S45491.08

Sample Tag: MW-21-140_021623

Collected Date/Time: 02/16/2023 09:20

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Semi-Volatiles						
Semi-Volatile Organics - MDEQ	SW8270D	02/23/23 23:41	P230223B	SF230222W1	Yes	BLK/LCS/LCSD/MS/MS
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/28/23 15:13	230228A9	VS230228W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 19:56	230220A7	VF230220W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S45491.09

Sample Tag: MW-21-140_021623 MS

Collected Date/Time: 02/16/2023 09:20

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Semi-Volatiles						
Semi-Volatile Organics - MDEQ	SW8270D	02/24/23 00:11	P230223B	SF230222W1	Yes	BLK/LCS/LCSD/MS/MS
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/28/23 12:48	230228A9	VS230228W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 23:27	230220A7	VF230220W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S45491.10

Sample Tag: MW-21-140_021623 MSD

Collected Date/Time: 02/16/2023 09:20

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Semi-Volatiles						
Semi-Volatile Organics - MDEQ	SW8270D	02/24/23 00:41	P230223B	SF230222W1	Yes	BLK/LCS/LCSD/MS/MS
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/28/23 13:08	230228A9	VS230228W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 23:50	230220A7	VF230220W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S45491.11

Sample Tag: MW-16-78_021623

Collected Date/Time: 02/16/2023 11:20

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Semi-Volatiles						
Semi-Volatile Organics - MDEQ	SW8270D	02/24/23 01:10	P230223B	SF230222W1	Yes	BLK/LCS/LCSD/MS/MS
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/27/23 18:51	230227A9	VS230227W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 20:19	230220A7	VF230220W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S45491.12

Sample Tag: DUP-02_021623

Collected Date/Time: 02/16/2023 00:01

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Semi-Volatiles						
Semi-Volatile Organics - MDEQ	SW8270D	02/24/23 01:40	P230223B	SF230222W1	Yes	BLK/LCS/LCSD/MS/MS
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/27/23 19:13	230227A9	VS230227W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 20:43	230220A7	VF230220W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S45491.13

Sample Tag: Trip Blank

Collected Date/Time: 02/15/2023 00:01

Matrix: Water

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 21:06	230220A7	VF230220W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S45491.14

Sample Tag: MW-19-123_021623

Collected Date/Time: 02/16/2023 12:55

Matrix: Groundwater

COC Reference: 152333

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	02/23/23 14:38	230223A9	VS230223W1	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Organics - Semi-Volatiles, Prep Batch ID: SF230222W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S45491.08	Semi-Volatile Organics - MDEQ	SW8270D	02/23/23 23:41	P230223B
S45491.09	Semi-Volatile Organics - MDEQ	SW8270D	02/24/23 00:11	P230223B
S45491.10	Semi-Volatile Organics - MDEQ	SW8270D	02/24/23 00:41	P230223B
S45491.11	Semi-Volatile Organics - MDEQ	SW8270D	02/24/23 01:10	P230223B
S45491.12	Semi-Volatile Organics - MDEQ	SW8270D	02/24/23 01:40	P230223B

Organics - Volatiles, Prep Batch ID: VF230220W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S45491.01	Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 17:59	230220A7
S45491.02	Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 18:22	230220A7
S45491.03	Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 18:46	230220A7
S45491.04	Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 19:09	230220A7
S45491.05	Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 19:32	230220A7
S45491.08	Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 19:56	230220A7
S45491.09	Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 23:27	230220A7
S45491.10	Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 23:50	230220A7
S45491.11	Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 20:19	230220A7
S45491.12	Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 20:43	230220A7
S45491.13	Volatile Organics - DEQ List	SW5030C/8260C	02/20/23 21:06	230220A7

Organics - Volatiles, Prep Batch ID: VF230223W3

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S45491.01	Volatile Organics - DEQ List (Replicate 01)	SW5030C/8260C	02/24/23 13:26	230223C7

Organics - Volatiles, Prep Batch ID: VS230223W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S45491.06	1,4-Dioxane	SW8260B - SIM	02/23/23 14:16	230223A9
S45491.14	1,4-Dioxane	SW8260B - SIM	02/23/23 14:38	230223A9

Organics - Volatiles, Prep Batch ID: VS230224W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S45491.01	1,4-Dioxane	SW8260B - SIM	02/24/23 17:20	230224A9
S45491.02	1,4-Dioxane	SW8260B - SIM	02/24/23 17:42	230224A9
S45491.03	1,4-Dioxane	SW8260B - SIM	02/24/23 18:04	230224A9
S45491.04	1,4-Dioxane	SW8260B - SIM	02/24/23 18:25	230224A9
S45491.05	1,4-Dioxane	SW8260B - SIM	02/24/23 18:47	230224A9

Organics - Volatiles, Prep Batch ID: VS230227W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S45491.07	1,4-Dioxane	SW8260B - SIM	02/27/23 18:08	230227A9
S45491.11	1,4-Dioxane	SW8260B - SIM	02/27/23 18:51	230227A9
S45491.12	1,4-Dioxane	SW8260B - SIM	02/27/23 19:13	230227A9

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VS230228W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S45491.08	1,4-Dioxane	SW8260B - SIM	02/28/23 15:13	230228A9
S45491.09	1,4-Dioxane	SW8260B - SIM	02/28/23 12:48	230228A9
S45491.10	1,4-Dioxane	SW8260B - SIM	02/28/23 13:08	230228A9

QC Report - Surrogates per Lab Sample

Lab Sample ID: S45491.01

Sample Tag: MW-22-156_021523

Collected Date/Time: 02/15/2023 10:15

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 17:59, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		108.5	80.0	124.0
1,2-Dichloroethane-D4		110.2	72.0	125.0
Toluene-D8		109.8	89.0	112.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List (Replicate 01)

Run in Batch: 230223C7, Run Date: 02/24/2023 13:26, Matrix: WW, Dilution: 10

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		111.7	80.0	124.0
1,2-Dichloroethane-D4		110.5	72.0	125.0
Toluene-D8		109.6	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S45491.02

Sample Tag: MW-22-153_021523

Collected Date/Time: 02/15/2023 11:10

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 18:22, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		107.9	80.0	124.0
1,2-Dichloroethane-D4		112.0	72.0	125.0
Toluene-D8		108.8	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S45491.03

Sample Tag: MW-22-155_021523

Collected Date/Time: 02/15/2023 12:20

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 18:46, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		108.3	80.0	124.0
1,2-Dichloroethane-D4		114.5	72.0	125.0
Toluene-D8		109.5	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S45491.04

Sample Tag: MW-14-58R_021523

Collected Date/Time: 02/15/2023 13:25

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 19:09, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		110.9	80.0	124.0
1,2-Dichloroethane-D4		106.9	72.0	125.0
Toluene-D8		108.7	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S45491.05

Sample Tag: DUP-01_021523

Collected Date/Time: 02/15/2023 00:01

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 19:32, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		108.8	80.0	124.0
1,2-Dichloroethane-D4		109.9	72.0	125.0
Toluene-D8		110.2	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S45491.08

Sample Tag: MW-21-140_021623

Collected Date/Time: 02/16/2023 09:20

Matrix: Groundwater

COC Reference: 152333

Organics - Semi-Volatiles, Analysis: Semi-Volatile Organics - MDEQ

Run in Batch: P230223B, Run Date: 02/23/2023 23:41, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		37.9	10.0	110.0
Phenol-D5		30.2	10.0	110.0
Nitrobenzene-D5		64.3	10.0	114.0
2-Fluorobiphenyl		74.1	10.0	116.0
2,4,6-Tribromophenol		77.6	10.0	123.0
Terphenyl-D14		78.7	10.0	141.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 19:56, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		110.1	80.0	124.0
1,2-Dichloroethane-D4		115.1	72.0	125.0
Toluene-D8		108.9	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S45491.11

Sample Tag: MW-16-78_021623

Collected Date/Time: 02/16/2023 11:20

Matrix: Groundwater

COC Reference: 152333

Organics - Semi-Volatiles, Analysis: Semi-Volatile Organics - MDEQ

Run in Batch: P230223B, Run Date: 02/24/2023 01:10, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		36.8	10.0	110.0
Phenol-D5		29.2	10.0	110.0
Nitrobenzene-D5		65.3	10.0	114.0
2-Fluorobiphenyl		72.1	10.0	116.0
2,4,6-Tribromophenol		74.6	10.0	123.0
Terphenyl-D14		75.9	10.0	141.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 20:19, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		108.6	80.0	124.0
1,2-Dichloroethane-D4		112.3	72.0	125.0
Toluene-D8		109.3	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S45491.12

Sample Tag: DUP-02_021623

Collected Date/Time: 02/16/2023 00:01

Matrix: Groundwater

COC Reference: 152333

Organics - Semi-Volatiles, Analysis: Semi-Volatile Organics - MDEQ

Run in Batch: P230223B, Run Date: 02/24/2023 01:40, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		37.7	10.0	110.0
Phenol-D5		29.7	10.0	110.0
Nitrobenzene-D5		64.2	10.0	114.0
2-Fluorobiphenyl		70.8	10.0	116.0
2,4,6-Tribromophenol		74.7	10.0	123.0
Terphenyl-D14		76.5	10.0	141.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 20:43, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		107.9	80.0	124.0
1,2-Dichloroethane-D4		112.0	72.0	125.0
Toluene-D8		108.6	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S45491.13

Sample Tag: Trip Blank

Collected Date/Time: 02/15/2023 00:01

Matrix: Water

COC Reference: 152333

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 21:06, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		109.5	80.0	124.0
1,2-Dichloroethane-D4		116.0	72.0	125.0
Toluene-D8		109.8	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Semi-Volatiles, Prep Batch ID: SF230222W1

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

Blank (BLK)

Lab Sample ID: P230223B.BLKW22A

Run in Batch: P230223B, Run Date: 02/23/2023 22:11, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		37.6	10.0	110.0
Phenol-D5		29.9	10.0	110.0
Nitrobenzene-D5		62.6	10.0	114.0
2-Fluorobiphenyl		65.5	10.0	116.0
2,4,6-Tribromophenol		74.9	10.0	123.0
Terphenyl-D14		70.8	10.0	141.0

Blank (BLK)

Lab Sample ID: P230223C.BLKW22A

Run in Batch: P230223C, Run Date: 02/23/2023 22:11, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample (LCS)

Lab Sample ID: P230223B.LCSW22A

Run in Batch: P230223B, Run Date: 02/23/2023 22:42, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		43.8	10.0	110.0
Phenol-D5		36.8	10.0	110.0
Nitrobenzene-D5		67.3	10.0	114.0
2-Fluorobiphenyl		73.9	10.0	116.0
2,4,6-Tribromophenol		83.4	10.0	123.0
Terphenyl-D14		74.3	10.0	141.0

Laboratory Control Sample (LCS)

Lab Sample ID: P230223C.LCSW22A

Run in Batch: P230223C, Run Date: 02/23/2023 22:42, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: P230223B.LCSDW22A, Parent Sample ID: P230223B.LCSW22A

Run in Batch: P230223B, Run Date: 02/23/2023 23:12, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		42.6	10.0	110.0
Phenol-D5		35.2	10.0	110.0
Nitrobenzene-D5		67.4	10.0	114.0
2-Fluorobiphenyl		74.7	10.0	116.0
2,4,6-Tribromophenol		82.7	10.0	123.0
Terphenyl-D14		73.3	10.0	141.0

QC Report - Surrogates per QC Sample

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: P230223C.LCSDW22A, Parent Sample ID: P230223C.LCSW22A

Run in Batch: P230223C, Run Date: 02/23/2023 23:12, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: P230223B.4549109M, Parent Sample ID: S45491.08

Run in Batch: P230223B, Run Date: 02/24/2023 00:11, Prep Date: 02/22/2023, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		38.7	10.0	110.0
Phenol-D5		31.0	10.0	110.0
Nitrobenzene-D5		69.3	10.0	114.0
2-Fluorobiphenyl		76.3	10.0	116.0
2,4,6-Tribromophenol		77.1	10.0	123.0
Terphenyl-D14		78.5	10.0	141.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: P230223B.4549110N, Parent Sample ID: P230223B.4549109M

Run in Batch: P230223B, Run Date: 02/24/2023 00:41, Prep Date: 02/22/2023, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		38.9	10.0	110.0
Phenol-D5		31.8	10.0	110.0
Nitrobenzene-D5		69.5	10.0	114.0
2-Fluorobiphenyl		78.0	10.0	116.0
2,4,6-Tribromophenol		83.0	10.0	123.0
Terphenyl-D14		84.2	10.0	141.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230220W2

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

Blank (BLK)

Lab Sample ID: 230220A7.BLKW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 15:20, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		111.9	80.0	124.0
1,2-Dichloroethane-D4		114.4	72.0	125.0
Toluene-D8		109.4	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230220A7.LCSW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 13:46, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		110.6	80.0	124.0
1,2-Dichloroethane-D4		107.1	72.0	125.0
Toluene-D8		109.4	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230220A7.LCSDW20A, Parent Sample ID: 230220A7.LCSW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 14:09, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		110.5	80.0	124.0
1,2-Dichloroethane-D4		111.8	72.0	125.0
Toluene-D8		109.5	89.0	112.0

Matrix Spike (MS)

Lab Sample ID: 230220A7.4549109M, Parent Sample ID: S45491.08

Run in Batch: 230220A7, Run Date: 02/20/2023 23:27, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		108.5	80.0	124.0
1,2-Dichloroethane-D4		116.4	72.0	125.0
Toluene-D8		109.9	89.0	112.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230220A7.4549110N, Parent Sample ID: 230220A7.4549109M

Run in Batch: 230220A7, Run Date: 02/20/2023 23:50, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		109.7	80.0	124.0
1,2-Dichloroethane-D4		114.7	72.0	125.0
Toluene-D8		109.6	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230223W3

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230223C7.BLKW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 05:58, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		109.6	80.0	124.0
1,2-Dichloroethane-D4		104.3	72.0	125.0
Toluene-D8		108.4	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230223C7.LCSW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 04:24, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		109.2	80.0	124.0
1,2-Dichloroethane-D4		105.9	72.0	125.0
Toluene-D8		108.9	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230223C7.LCSDW23C, Parent Sample ID: 230223C7.LCSW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 04:48, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		108.8	80.0	124.0
1,2-Dichloroethane-D4		109.5	72.0	125.0
Toluene-D8		109.9	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS230223W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230223A9.BLKW23A

Run in Batch: 230223A9, Run Date: 02/23/2023 13:54, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 230223A9.LCSS23A

Run in Batch: 230223A9, Run Date: 02/23/2023 12:30, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230223A9.LCSDS23A, Parent Sample ID: 230223A9.LCSS23A

Run in Batch: 230223A9, Run Date: 02/23/2023 12:51, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS230224W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230224A9.BLKW24A

Run in Batch: 230224A9, Run Date: 02/24/2023 16:38, Prep Date: 02/24/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 230224A9.LCSS24A

Run in Batch: 230224A9, Run Date: 02/24/2023 14:12, Prep Date: 02/24/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230224A9.LCSD24A, Parent Sample ID: 230224A9.LCSS24A

Run in Batch: 230224A9, Run Date: 02/24/2023 14:33, Prep Date: 02/24/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS230227W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230227A9.BLKW27A

Run in Batch: 230227A9, Run Date: 02/27/2023 16:44, Prep Date: 02/27/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 230227A9.LCSS27A

Run in Batch: 230227A9, Run Date: 02/27/2023 14:18, Prep Date: 02/27/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230227A9.LCSDS27A, Parent Sample ID: 230227A9.LCSS27A

Run in Batch: 230227A9, Run Date: 02/27/2023 14:39, Prep Date: 02/27/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS230228W1

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

Blank (BLK)

Lab Sample ID: 230228A9.BLKS28A

Run in Batch: 230228A9, Run Date: 02/28/2023 14:52, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample (LCS)

Lab Sample ID: 230228A9.LCSS28A

Run in Batch: 230228A9, Run Date: 02/28/2023 11:59, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230228A9.LCSDS28A, Parent Sample ID: 230228A9.LCSS28A

Run in Batch: 230228A9, Run Date: 02/28/2023 12:27, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 230228A9.4549109M, Parent Sample ID: S45491.08

Run in Batch: 230228A9, Run Date: 02/28/2023 12:48, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 230228A9.4549403M, Parent Sample ID: S45494.02

Run in Batch: 230228A9, Run Date: 02/28/2023 13:29, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230228A9.4549110N, Parent Sample ID: 230228A9.4549109M

Run in Batch: 230228A9, Run Date: 02/28/2023 13:08, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230228A9.4549404N, Parent Sample ID: 230228A9.4549403M

Run in Batch: 230228A9, Run Date: 02/28/2023 13:49, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S45491.01

Sample Tag: MW-22-156_021523

Collected Date/Time: 02/15/2023 10:15

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230224A9, Run Date: 02/24/2023 17:20, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		104.0	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 17:59, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		90.7	50.0	200.0
1,4-Difluorobenzene		94.9	50.0	200.0
Chlorobenzene-D5		95.2	50.0	200.0
1,4-Dichlorobenzene-D4		94.3	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List (Replicate 01)

Run in Batch: 230223C7, Run Date: 02/24/2023 13:26, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		98.7	50.0	200.0
1,4-Difluorobenzene		100.5	50.0	200.0
Chlorobenzene-D5		100.3	50.0	200.0
1,4-Dichlorobenzene-D4		100.2	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S45491.02

Sample Tag: MW-22-153_021523

Collected Date/Time: 02/15/2023 11:10

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230224A9, Run Date: 02/24/2023 17:42, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		100.4	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 18:22, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		94.2	50.0	200.0
1,4-Difluorobenzene		99.7	50.0	200.0
Chlorobenzene-D5		101.0	50.0	200.0
1,4-Dichlorobenzene-D4		100.0	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S45491.03

Sample Tag: MW-22-155_021523

Collected Date/Time: 02/15/2023 12:20

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230224A9, Run Date: 02/24/2023 18:04, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		97.7	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 18:46, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		94.6	50.0	200.0
1,4-Difluorobenzene		99.8	50.0	200.0
Chlorobenzene-D5		102.4	50.0	200.0
1,4-Dichlorobenzene-D4		102.3	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S45491.04

Sample Tag: MW-14-58R_021523

Collected Date/Time: 02/15/2023 13:25

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230224A9, Run Date: 02/24/2023 18:25, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		106.9	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 19:09, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		90.1	50.0	200.0
1,4-Difluorobenzene		95.2	50.0	200.0
Chlorobenzene-D5		93.4	50.0	200.0
1,4-Dichlorobenzene-D4		92.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S45491.05

Sample Tag: DUP-01_021523

Collected Date/Time: 02/15/2023 00:01

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230224A9, Run Date: 02/24/2023 18:47, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		94.8	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 19:32, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		90.7	50.0	200.0
1,4-Difluorobenzene		95.4	50.0	200.0
Chlorobenzene-D5		95.8	50.0	200.0
1,4-Dichlorobenzene-D4		96.3	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S45491.06

Sample Tag: MW-22-157_021523

Collected Date/Time: 02/15/2023 14:30

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230223A9, Run Date: 02/23/2023 14:16, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		99.8	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S45491.07

Sample Tag: MW-21-139_021523

Collected Date/Time: 02/15/2023 15:55

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230227A9, Run Date: 02/27/2023 18:08, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		98.1	50.0	200.0

Lab Sample ID: S45491.08

Sample Tag: MW-21-140_021623

Collected Date/Time: 02/16/2023 09:20

Matrix: Groundwater

COC Reference: 152333

Organics - Semi-Volatiles, Analysis: Semi-Volatile Organics - MDEQ

Run in Batch: P230223B, Run Date: 02/23/2023 23:41, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dichlorobenzene-D4		83.6	50.0	200.0
Naphthalene-D8		82.8	50.0	200.0
Acenaphthalene-D10		82.6	50.0	200.0
Phenanthrene-D10		81.4	50.0	200.0
Chrysene-D12		81.9	50.0	200.0
Perylene-D12		83.8	50.0	200.0

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230228A9, Run Date: 02/28/2023 15:13, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		83.5	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 19:56, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		96.5	50.0	200.0
1,4-Difluorobenzene		102.3	50.0	200.0
Chlorobenzene-D5		103.6	50.0	200.0
1,4-Dichlorobenzene-D4		102.7	50.0	200.0

Lab Sample ID: S45491.11

Sample Tag: MW-16-78_021623

Collected Date/Time: 02/16/2023 11:20

Matrix: Groundwater

COC Reference: 152333

Organics - Semi-Volatiles, Analysis: Semi-Volatile Organics - MDEQ

Run in Batch: P230223B, Run Date: 02/24/2023 01:10, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dichlorobenzene-D4		89.2	50.0	200.0
Naphthalene-D8		87.3	50.0	200.0
Acenaphthalene-D10		87.7	50.0	200.0
Phenanthrene-D10		85.4	50.0	200.0
Chrysene-D12		86.0	50.0	200.0
Perylene-D12		88.1	50.0	200.0

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230227A9, Run Date: 02/27/2023 18:51, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		96.2	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 20:19, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		92.9	50.0	200.0
1,4-Difluorobenzene		98.2	50.0	200.0
Chlorobenzene-D5		98.4	50.0	200.0
1,4-Dichlorobenzene-D4		98.6	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S45491.12

Sample Tag: DUP-02_021623

Collected Date/Time: 02/16/2023 00:01

Matrix: Groundwater

COC Reference: 152333

Organics - Semi-Volatiles, Analysis: Semi-Volatile Organics - MDEQ

Run in Batch: P230223B, Run Date: 02/24/2023 01:40, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dichlorobenzene-D4		85.6	50.0	200.0
Naphthalene-D8		84.6	50.0	200.0
Acenaphthalene-D10		84.6	50.0	200.0
Phenanthrene-D10		84.0	50.0	200.0
Chrysene-D12		84.2	50.0	200.0
Perylene-D12		83.4	50.0	200.0

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230227A9, Run Date: 02/27/2023 19:13, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		101.4	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 20:43, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		93.4	50.0	200.0
1,4-Difluorobenzene		99.4	50.0	200.0
Chlorobenzene-D5		100.0	50.0	200.0
1,4-Dichlorobenzene-D4		98.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S45491.13

Sample Tag: Trip Blank

Collected Date/Time: 02/15/2023 00:01

Matrix: Water

COC Reference: 152333

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230220A7, Run Date: 02/20/2023 21:06, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		93.8	50.0	200.0
1,4-Difluorobenzene		99.6	50.0	200.0
Chlorobenzene-D5		103.1	50.0	200.0
1,4-Dichlorobenzene-D4		102.2	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S45491.14

Sample Tag: MW-19-123_021623

Collected Date/Time: 02/16/2023 12:55

Matrix: Groundwater

COC Reference: 152333

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230223A9, Run Date: 02/23/2023 14:38, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		96.8	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Semi-Volatiles, Prep Batch ID: SF230222W1

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

Blank (BLK)

Lab Sample ID: P230223B.BLKW22A

Run in Batch: P230223B, Run Date: 02/23/2023 22:11, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dichlorobenzene-D4		95.8	50.0	200.0
Naphthalene-D8		93.0	50.0	200.0
Acenaphthalene-D10		94.0	50.0	200.0
Phenanthrene-D10		91.6	50.0	200.0
Chrysene-D12		94.9	50.0	200.0
Perylene-D12		92.8	50.0	200.0

Blank (BLK)

Lab Sample ID: P230223C.BLKW22A

Run in Batch: P230223C, Run Date: 02/23/2023 22:11, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dichlorobenzene-D4		103.0	50.0	200.0
Naphthalene-D8		98.9	50.0	200.0
Acenaphthalene-D10		99.8	50.0	200.0
Phenanthrene-D10		99.8	50.0	200.0
Chrysene-D12		102.1	50.0	200.0
Perylene-D12		96.7	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: P230223B.LCSW22A

Run in Batch: P230223B, Run Date: 02/23/2023 22:42, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dichlorobenzene-D4		94.5	50.0	200.0
Naphthalene-D8		94.0	50.0	200.0
Acenaphthalene-D10		92.4	50.0	200.0
Phenanthrene-D10		92.7	50.0	200.0
Chrysene-D12		93.3	50.0	200.0
Perylene-D12		98.5	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: P230223C.LCSW22A

Run in Batch: P230223C, Run Date: 02/23/2023 22:42, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dichlorobenzene-D4		107.8	50.0	200.0
Naphthalene-D8		100.2	50.0	200.0
Acenaphthalene-D10		101.4	50.0	200.0
Phenanthrene-D10		100.9	50.0	200.0
Chrysene-D12		100.3	50.0	200.0
Perylene-D12		102.6	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: P230223B.LCSDW22A, Parent Sample ID: P230223B.LCSW22A

Run in Batch: P230223B, Run Date: 02/23/2023 23:12, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dichlorobenzene-D4		91.2	50.0	200.0
Naphthalene-D8		89.5	50.0	200.0
Acenaphthalene-D10		88.8	50.0	200.0
Phenanthrene-D10		89.3	50.0	200.0
Chrysene-D12		88.1	50.0	200.0
Perylene-D12		91.1	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: P230223C.LCSDW22A, Parent Sample ID: P230223C.LCSW22A

Run in Batch: P230223C, Run Date: 02/23/2023 23:12, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dichlorobenzene-D4		104.3	50.0	200.0
Naphthalene-D8		95.4	50.0	200.0
Acenaphthalene-D10		95.5	50.0	200.0
Phenanthrene-D10		97.2	50.0	200.0
Chrysene-D12		94.9	50.0	200.0
Perylene-D12		95.0	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: P230223B.4549109M, Parent Sample ID: S45491.08

Run in Batch: P230223B, Run Date: 02/24/2023 00:11, Prep Date: 02/22/2023, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dichlorobenzene-D4		96.2	50.0	200.0
Naphthalene-D8		92.9	50.0	200.0
Acenaphthalene-D10		94.6	50.0	200.0
Phenanthrene-D10		91.9	50.0	200.0
Chrysene-D12		93.3	50.0	200.0
Perylene-D12		94.0	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: P230223B.4549110N, Parent Sample ID: P230223B.4549109M

Run in Batch: P230223B, Run Date: 02/24/2023 00:41, Prep Date: 02/22/2023, Matrix: WW, Dilution: 2

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dichlorobenzene-D4		90.1	50.0	200.0
Naphthalene-D8		88.4	50.0	200.0
Acenaphthalene-D10		88.7	50.0	200.0
Phenanthrene-D10		86.1	50.0	200.0
Chrysene-D12		87.5	50.0	200.0
Perylene-D12		91.0	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF230220W2

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

Blank (BLK)

Lab Sample ID: 230220A7.BLKW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 15:20, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		101.1	50.0	200.0
1,4-Difluorobenzene		105.7	50.0	200.0
Chlorobenzene-D5		106.3	50.0	200.0
1,4-Dichlorobenzene-D4		107.7	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230220A7.LCSW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 13:46, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		102.8	50.0	200.0
1,4-Difluorobenzene		103.5	50.0	200.0
Chlorobenzene-D5		104.6	50.0	200.0
1,4-Dichlorobenzene-D4		104.5	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230220A7.LCSDW20A, Parent Sample ID: 230220A7.LCSW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 14:09, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		101.6	50.0	200.0
1,4-Difluorobenzene		102.8	50.0	200.0
Chlorobenzene-D5		104.0	50.0	200.0
1,4-Dichlorobenzene-D4		104.1	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 230220A7.4549109M, Parent Sample ID: S45491.08

Run in Batch: 230220A7, Run Date: 02/20/2023 23:27, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		92.2	50.0	200.0
1,4-Difluorobenzene		97.2	50.0	200.0
Chlorobenzene-D5		98.9	50.0	200.0
1,4-Dichlorobenzene-D4		97.6	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230220A7.4549110N, Parent Sample ID: 230220A7.4549109M

Run in Batch: 230220A7, Run Date: 02/20/2023 23:50, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		94.7	50.0	200.0
1,4-Difluorobenzene		98.2	50.0	200.0
Chlorobenzene-D5		99.7	50.0	200.0
1,4-Dichlorobenzene-D4		99.6	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF230223W3

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230223C7.BLKW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 05:58, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		98.7	50.0	200.0
1,4-Difluorobenzene		97.8	50.0	200.0
Chlorobenzene-D5		95.5	50.0	200.0
1,4-Dichlorobenzene-D4		92.7	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230223C7.LCSW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 04:24, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		100.2	50.0	200.0
1,4-Difluorobenzene		99.8	50.0	200.0
Chlorobenzene-D5		100.6	50.0	200.0
1,4-Dichlorobenzene-D4		98.2	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230223C7.LCSDW23C, Parent Sample ID: 230223C7.LCSW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 04:48, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		100.1	50.0	200.0
1,4-Difluorobenzene		100.1	50.0	200.0
Chlorobenzene-D5		100.8	50.0	200.0
1,4-Dichlorobenzene-D4		98.6	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS230223W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230223A9.BLKW23A

Run in Batch: 230223A9, Run Date: 02/23/2023 13:54, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		85.1	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230223A9.LCSS23A

Run in Batch: 230223A9, Run Date: 02/23/2023 12:30, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		99.4	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230223A9.LCSDS23A, Parent Sample ID: 230223A9.LCSS23A

Run in Batch: 230223A9, Run Date: 02/23/2023 12:51, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		106.6	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS230224W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230224A9.BLKW24A

Run in Batch: 230224A9, Run Date: 02/24/2023 16:38, Prep Date: 02/24/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		100.4	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230224A9.LCSS24A

Run in Batch: 230224A9, Run Date: 02/24/2023 14:12, Prep Date: 02/24/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		89.5	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230224A9.LCSD24A, Parent Sample ID: 230224A9.LCSS24A

Run in Batch: 230224A9, Run Date: 02/24/2023 14:33, Prep Date: 02/24/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		98.2	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS230227W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230227A9.BLKW27A

Run in Batch: 230227A9, Run Date: 02/27/2023 16:44, Prep Date: 02/27/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		76.0	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230227A9.LCSS27A

Run in Batch: 230227A9, Run Date: 02/27/2023 14:18, Prep Date: 02/27/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		88.1	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230227A9.LCSDS27A, Parent Sample ID: 230227A9.LCSS27A

Run in Batch: 230227A9, Run Date: 02/27/2023 14:39, Prep Date: 02/27/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		89.9	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS230228W1

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

Blank (BLK)

Lab Sample ID: 230228A9.BLKS28A

Run in Batch: 230228A9, Run Date: 02/28/2023 14:52, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		71.5	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230228A9.LCSS28A

Run in Batch: 230228A9, Run Date: 02/28/2023 11:59, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		86.5	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230228A9.LCSDS28A, Parent Sample ID: 230228A9.LCSS28A

Run in Batch: 230228A9, Run Date: 02/28/2023 12:27, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		85.1	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 230228A9.4549109M, Parent Sample ID: S45491.08

Run in Batch: 230228A9, Run Date: 02/28/2023 12:48, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		77.3	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 230228A9.4549403M, Parent Sample ID: S45494.02

Run in Batch: 230228A9, Run Date: 02/28/2023 13:29, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		71.8	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230228A9.4549110N, Parent Sample ID: 230228A9.4549109M

Run in Batch: 230228A9, Run Date: 02/28/2023 13:08, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		68.9	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230228A9.4549404N, Parent Sample ID: 230228A9.4549403M

Run in Batch: 230228A9, Run Date: 02/28/2023 13:49, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		78.9	50.0	200.0

Organics - Semi-Volatiles, Prep Batch ID: SF230222W1

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

Blank (BLK)

Lab Sample ID: P230223B.BLKW22A

Run in Batch: P230223B, Run Date: 02/23/2023 22:11, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acenaphthene		ND	0.00050	mg/l
Acenaphthylene		ND	0.00050	mg/l
Anthracene		ND	0.00050	mg/l
Benzo(a)anthracene		ND	0.00050	mg/l
Benzo(b)fluoranthene		ND	0.00050	mg/l
Benzo(k)fluoranthene		ND	0.00050	mg/l
Benzo(ghi)perylene		ND	0.00050	mg/l
Benzo(a)pyrene		ND	0.00050	mg/l
bis(2-Chloroethoxy)methane		ND	0.00050	mg/l
bis(2-Chloroethyl)ether		ND	0.00050	mg/l
bis(2-Chloroisopropyl)ether		ND	0.00050	mg/l
bis(2-Ethylhexyl)phthalate		ND	0.00050	mg/l
4-Bromophenyl phenyl ether		ND	0.00050	mg/l
Butyl benzyl phthalate		ND	0.00050	mg/l
4-Chloroaniline		ND	0.00050	mg/l
2-Chloronaphthalene		ND	0.00050	mg/l
4-Chloro-3-methylphenol		ND	0.00050	mg/l
2-Chlorophenol		ND	0.00050	mg/l
4-Chlorophenyl phenyl ether		ND	0.00050	mg/l
Chrysene		ND	0.00050	mg/l
3-, 4-Methylphenol (p,m-Cresol)		ND	0.00050	mg/l
2-Methylphenol (o-Cresol)		ND	0.00050	mg/l
Dibenzo(ah)anthracene		ND	0.00050	mg/l
Dibenzofuran		ND	0.00050	mg/l
di-n-Butyl phthalate		ND	0.00050	mg/l
1,2-Dichlorobenzene		ND	0.00050	mg/l
1,3-Dichlorobenzene		ND	0.00050	mg/l
1,4-Dichlorobenzene		ND	0.00050	mg/l
3,3'-Dichlorobenzidine		ND	0.00050	mg/l
2,4-Dichlorophenol		ND	0.00050	mg/l
Diethyl phthalate		ND	0.00050	mg/l
2,4-Dimethylphenol		ND	0.00050	mg/l
Dimethyl phthalate		ND	0.00050	mg/l
4,6-Dinitro-2-methylphenol		ND	0.00050	mg/l
2,4-Dinitrophenol		ND	0.00050	mg/l
2,4-Dinitrotoluene		ND	0.00050	mg/l
2,6-Dinitrotoluene		ND	0.00050	mg/l
1,2-Diphenylhydrazine		ND	0.00050	mg/l
di-n-Octyl phthalate		ND	0.00050	mg/l
Fluoranthene		ND	0.00050	mg/l
Fluorene		ND	0.00050	mg/l
Hexachlorobenzene		ND	0.00050	mg/l
Hexachlorobutadiene		ND	0.00050	mg/l
Hexachlorocyclopentadiene		ND	0.00050	mg/l
Hexachloroethane		ND	0.00050	mg/l
Indeno(1,2,3-cd)pyrene		ND	0.00050	mg/l

Organics - Semi-Volatiles, Prep Batch ID: SF230222W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: P230223B.BLKW22A

Run in Batch: P230223B, Run Date: 02/23/2023 22:11, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Isophorone		ND	0.00050	mg/l
2-Methylnaphthalene		ND	0.00050	mg/l
Naphthalene		ND	0.00050	mg/l
2-Nitroaniline		ND	0.00050	mg/l
3-Nitroaniline		ND	0.00050	mg/l
4-Nitroaniline		ND	0.00050	mg/l
Nitrobenzene		ND	0.00050	mg/l
2-Nitrophenol		ND	0.00050	mg/l
4-Nitrophenol		ND	0.00050	mg/l
N-Nitrosodiphenylamine		ND	0.00050	mg/l
N-Nitrosodi-n-propylamine		ND	0.00050	mg/l
Pentachlorophenol		ND	0.00050	mg/l
Phenanthrene		ND	0.00050	mg/l
Phenol		ND	0.00050	mg/l
Pyrene		ND	0.00050	mg/l
1,2,4-Trichlorobenzene		ND	0.00050	mg/l
2,4,5-Trichlorophenol		ND	0.00050	mg/l
2,4,6-Trichlorophenol		ND	0.00050	mg/l

Laboratory Control Sample (LCS)

Lab Sample ID: P230223B.LCSW22A

Run in Batch: P230223B, Run Date: 02/23/2023 22:42, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acenaphthene		64.5	27	111
Acenaphthylene		65.8	16	116
Anthracene		63.9	31	119
Benzo(a)anthracene		65.2	35	119
Benzo(b)fluoranthene		66.3	27	129
Benzo(k)fluoranthene		61.1	36	120
Benzo(ghi)perylene		63.0	31	126
Benzo(a)pyrene		62.3	32	121
bis(2-Chloroethoxy)methane		61.2	23	106
bis(2-Chloroethyl)ether		57.9	29	94
bis(2-Chloroisopropyl)ether		51.8	23	91
bis(2-Ethylhexyl)phthalate		63.9	35	121
4-Bromophenyl phenyl ether		68.0	27	122
Butyl benzyl phthalate		65.9	36	117
4-Chloroaniline		37.0	19	91
2-Chloronaphthalene		63.4	21	109
4-Chloro-3-methylphenol		63.6	36	105
2-Chlorophenol		57.3	24	94
4-Chlorophenyl phenyl ether		67.0	31	114
Chrysene		61.4	34	119
3-, 4-Methylphenol (p,m-Cresol)		51.6	21	90
2-Methylphenol (o-Cresol)		52.7	23	79
Dibenzo(ah)anthracene		64.5	32	119

QC Report - Batch QC Results

Organics - Semi-Volatiles, Prep Batch ID: SF230222W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: P230223B.LCSW22A

Run in Batch: P230223B, Run Date: 02/23/2023 22:42, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Dibenzofuran		67.5	29	115
di-n-Butyl phthalate		68.2	34	121
1,2-Dichlorobenzene		49.8	11	88
1,3-Dichlorobenzene		47.5	10	85
1,4-Dichlorobenzene		48.0	10	85
3,3'-Dichlorobenzidine		49.8	27	110
2,4-Dichlorophenol		63.5	33	106
Diethyl phthalate		66.8	36	116
2,4-Dimethylphenol		62.0	30	105
Dimethyl phthalate		67.3	35	116
4,6-Dinitro-2-methylphenol		60.8	19	116
2,4-Dinitrophenol		48.0	10	125
2,4-Dinitrotoluene		69.9	33	119
2,6-Dinitrotoluene		68.3	34	117
1,2-Diphenylhydrazine		63.8	34	113
di-n-Octyl phthalate		67.1	30	133
Fluoranthene		66.6	35	121
Fluorene		64.8	32	114
Hexachlorobenzene		64.3	26	126
Hexachlorobutadiene		52.2	10	95
Hexachlorocyclopentadiene		68.4	10	90
Hexachloroethane		44.2	10	82
Indeno(1,2,3-cd)pyrene		64.3	31	124
Isophorone		61.7	26	104
2-Methylnaphthalene		60.2	21	103
Naphthalene		57.8	21	99
2-Nitroaniline		67.2	34	111
3-Nitroaniline		43.8	34	111
4-Nitroaniline		60.5	34	100
Nitrobenzene		57.7	30	98
2-Nitrophenol		62.3	31	108
4-Nitrophenol		43.1	10	90
N-Nitrosodiphenylamine		65.1	31	120
N-Nitrosodi-n-propylamine		60.9	33	102
Pentachlorophenol		56.7	10	108
Phenanthrene		61.6	35	113
Phenol		30.9	10	43
Pyrene		66.1	33	120
1,2,4-Trichlorobenzene		55.2	10	98
2,4,5-Trichlorophenol		67.3	31	120
2,4,6-Trichlorophenol		67.3	31	114

QC Report - Batch QC Results

Organics - Semi-Volatiles, Prep Batch ID: SF230222W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: P230223B.LCSDW22A, Parent Sample ID: P230223B.LCSW22A

Run in Batch: P230223B, Run Date: 02/23/2023 23:12, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acenaphthene		68.1	27	111	5.4	30.0
Acenaphthylene		69.3	16	116	5.2	30.0
Anthracene		67.7	31	119	5.7	30.0
Benzo(a)anthracene		69.8	35	119	6.9	30.0
Benzo(b)fluoranthene		69.3	27	129	4.3	30.0
Benzo(k)fluoranthene		69.9	36	120	13.5	30.0
Benzo(ghi)perylene		69.3	31	126	9.5	30.0
Benzo(a)pyrene		70.7	32	121	12.6	30.0
bis(2-Chloroethoxy)methane		64.2	23	106	4.8	30.0
bis(2-Chloroethyl)ether		60.7	29	94	4.8	30.0
bis(2-Chloroisopropyl)ether		51.2	23	91	1.0	30.0
bis(2-Ethylhexyl)phthalate		68.0	35	121	6.3	30.0
4-Bromophenyl phenyl ether		69.4	27	122	2.1	30.0
Butyl benzyl phthalate		70.0	36	117	6.0	30.0
4-Chloroaniline		36.9	19	91	0.2	30.0
2-Chloronaphthalene		64.9	21	109	2.4	30.0
4-Chloro-3-methylphenol		66.7	36	105	4.7	30.0
2-Chlorophenol		58.2	24	94	1.5	30.0
4-Chlorophenyl phenyl ether		70.5	31	114	5.1	30.0
Chrysene		66.8	34	119	8.5	30.0
3-, 4-Methylphenol (p,m-Cresol)		52.4	21	90	1.5	30.0
2-Methylphenol (o-Cresol)		53.8	23	79	2.1	30.0
Dibenzo(ah)anthracene		70.8	32	119	9.3	30.0
Dibenzofuran		69.2	29	115	2.5	30.0
di-n-Butyl phthalate		71.1	34	121	4.1	30.0
1,2-Dichlorobenzene		51.0	11	88	2.5	30.0
1,3-Dichlorobenzene		48.7	10	85	2.5	30.0
1,4-Dichlorobenzene		49.4	10	85	3.0	30.0
3,3'-Dichlorobenzidine		55.4	27	110	10.5	30.0
2,4-Dichlorophenol		66.7	33	106	5.0	30.0
Diethyl phthalate		69.5	36	116	4.0	30.0
2,4-Dimethylphenol		63.9	30	105	2.9	30.0
Dimethyl phthalate		70.0	35	116	3.9	30.0
4,6-Dinitro-2-methylphenol		62.8	19	116	3.2	30.0
2,4-Dinitrophenol		52.3	10	125	8.6	30.0
2,4-Dinitrotoluene		72.7	33	119	3.9	30.0
2,6-Dinitrotoluene		71.2	34	117	4.1	30.0
1,2-Diphenylhydrazine		66.9	34	113	4.8	30.0
di-n-Octyl phthalate		72.6	30	133	7.9	30.0
Fluoranthene		68.9	35	121	3.5	30.0
Fluorene		67.7	32	114	4.4	30.0
Hexachlorobenzene		68.8	26	126	6.7	30.0
Hexachlorobutadiene		54.8	10	95	4.8	30.0
Hexachlorocyclopentadiene		70.5	10	90	3.1	30.0
Hexachloroethane		45.0	10	82	1.8	30.0
Indeno(1,2,3-cd)pyrene		71.8	31	124	11.1	30.0

QC Report - Batch QC Results

Organics - Semi-Volatiles, Prep Batch ID: SF230222W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: P230223B.LCSDW22A, Parent Sample ID: P230223B.LCSW22A

Run in Batch: P230223B, Run Date: 02/23/2023 23:12, Prep Date: 02/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isophorone		65.0	26	104	5.1	30.0
2-Methylnaphthalene		62.9	21	103	4.4	30.0
Naphthalene		60.7	21	99	5.0	30.0
2-Nitroaniline		71.6	34	111	6.5	30.0
3-Nitroaniline		44.6	34	111	1.9	30.0
4-Nitroaniline		63.5	34	100	4.7	30.0
Nitrobenzene		59.7	30	98	3.4	30.0
2-Nitrophenol		65.3	31	108	4.7	30.0
4-Nitrophenol		42.3	10	90	1.7	30.0
N-Nitrosodiphenylamine		68.5	31	120	5.0	30.0
N-Nitrosodi-n-propylamine		62.6	33	102	2.7	30.0
Pentachlorophenol		59.7	10	108	5.1	30.0
Phenanthrene		65.0	35	113	5.4	30.0
Phenol		30.8	10	43	0.4	30.0
Pyrene		69.6	33	120	5.2	30.0
1,2,4-Trichlorobenzene		57.5	10	98	4.0	30.0
2,4,5-Trichlorophenol		70.7	31	120	4.9	30.0
2,4,6-Trichlorophenol		69.9	31	114	3.8	30.0

Matrix Spike (MS)

Lab Sample ID: P230223B.4549109M, Parent Sample ID: S45491.08

Run in Batch: P230223B, Run Date: 02/24/2023 00:11, Prep Date: 02/22/2023, Matrix: WW, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL
Acenaphthene		64.9	27	111
Acenaphthylene		66.2	16	116
Anthracene		67.7	31	119
Benzo(a)anthracene		66.5	35	119
Benzo(b)fluoranthene		70.4	27	129
Benzo(k)fluoranthene		67.1	36	120
Benzo(ghi)perylene		63.8	31	126
Benzo(a)pyrene		67.2	32	121
bis(2-Chloroethoxy)methane		61.8	23	106
bis(2-Chloroethyl)ether		57.5	29	94
bis(2-Chloroisopropyl)ether		53.1	23	91
bis(2-Ethylhexyl)phthalate		64.9	35	121
4-Bromophenyl phenyl ether		68.3	27	122
Butyl benzyl phthalate		65.4	36	117
4-Chloroaniline		42.1	19	91
2-Chloronaphthalene		63.8	21	109
4-Chloro-3-methylphenol		62.2	36	105
2-Chlorophenol		53.2	24	94
4-Chlorophenyl phenyl ether		66.5	31	114
Chrysene		65.0	34	119
3-, 4-Methylphenol (p,m-Cresol)		46.4	21	90
2-Methylphenol (o-Cresol)		48.7	23	79
Dibenzo(ah)anthracene		65.8	32	119

QC Report - Batch QC Results

Organics - Semi-Volatiles, Prep Batch ID: SF230222W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: P230223B.4549109M, Parent Sample ID: S45491.08

Run in Batch: P230223B, Run Date: 02/24/2023 00:11, Prep Date: 02/22/2023, Matrix: WW, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL
Dibenzofuran		66.2	29	115
di-n-Butyl phthalate		69.5	34	121
1,2-Dichlorobenzene		56.9	11	88
1,3-Dichlorobenzene		55.3	10	85
1,4-Dichlorobenzene		55.8	10	85
3,3'-Dichlorobenzidine		54.9	27	110
2,4-Dichlorophenol		62.6	33	106
Diethyl phthalate		66.4	36	116
2,4-Dimethylphenol		60.0	30	105
Dimethyl phthalate		66.3	35	116
4,6-Dinitro-2-methylphenol		58.5	19	116
2,4-Dinitrophenol		43.1	10	125
2,4-Dinitrotoluene		66.1	33	119
2,6-Dinitrotoluene		66.9	34	117
1,2-Diphenylhydrazine		64.9	34	113
di-n-Octyl phthalate		69.6	30	133
Fluoranthene		67.1	35	121
Fluorene		66.4	32	114
Hexachlorobenzene		66.4	26	126
Hexachlorobutadiene		63.8	10	95
Hexachlorocyclopentadiene		71.8	10	90
Hexachloroethane		54.5	10	82
Indeno(1,2,3-cd)pyrene		65.7	31	124
Isophorone		63.0	26	104
2-Methylnaphthalene		65.2	21	103
Naphthalene		63.1	21	99
2-Nitroaniline		64.1	34	111
3-Nitroaniline		50.0	34	111
4-Nitroaniline		59.0	34	100
Nitrobenzene		58.7	30	98
2-Nitrophenol		62.4	31	108
4-Nitrophenol		35.8	10	90
N-Nitrosodiphenylamine		67.7	31	120
N-Nitrosodi-n-propylamine		60.1	33	102
Pentachlorophenol		50.9	10	108
Phenanthrene		65.1	35	113
Phenol		25.3	10	43
Pyrene		66.6	33	120
1,2,4-Trichlorobenzene		63.0	10	98
2,4,5-Trichlorophenol		65.8	31	120
2,4,6-Trichlorophenol		63.3	31	114

QC Report - Batch QC Results

Organics - Semi-Volatiles, Prep Batch ID: SF230222W1 (continued)

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

Matrix Spike Duplicate (MSD)

Lab Sample ID: P230223B.4549110N, Parent Sample ID: P230223B.4549109M

Run in Batch: P230223B, Run Date: 02/24/2023 00:41, Prep Date: 02/22/2023, Matrix: WW, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acenaphthene		67.3	27	111	3.6	30.0
Acenaphthylene		68.8	16	116	3.8	30.0
Anthracene		71.9	31	119	6.0	30.0
Benzo(a)anthracene		71.4	35	119	7.1	30.0
Benzo(b)fluoranthene		74.8	27	129	6.1	30.0
Benzo(k)fluoranthene		70.6	36	120	5.0	30.0
Benzo(ghi)perylene		66.9	31	126	4.7	30.0
Benzo(a)pyrene		69.5	32	121	3.4	30.0
bis(2-Chloroethoxy)methane		62.8	23	106	1.6	30.0
bis(2-Chloroethyl)ether		58.8	29	94	2.3	30.0
bis(2-Chloroisopropyl)ether		53.9	23	91	1.4	30.0
bis(2-Ethylhexyl)phthalate		70.6	35	121	8.5	30.0
4-Bromophenyl phenyl ether		70.6	27	122	3.3	30.0
Butyl benzyl phthalate		70.0	36	117	6.8	30.0
4-Chloroaniline		38.1	19	91	10.0	30.0
2-Chloronaphthalene		65.4	21	109	2.4	30.0
4-Chloro-3-methylphenol		63.4	36	105	1.8	30.0
2-Chlorophenol		54.9	24	94	3.2	30.0
4-Chlorophenyl phenyl ether		69.8	31	114	4.8	30.0
Chrysene		69.4	34	119	6.4	30.0
3-, 4-Methylphenol (p,m-Cresol)		47.1	21	90	1.3	30.0
2-Methylphenol (o-Cresol)		50.8	23	79	4.1	30.0
Dibenzo(ah)anthracene		67.1	32	119	2.0	30.0
Dibenzofuran		68.7	29	115	3.7	30.0
di-n-Butyl phthalate		76.1	34	121	9.0	30.0
1,2-Dichlorobenzene		58.9	11	88	3.5	30.0
1,3-Dichlorobenzene		58.4	10	85	5.4	30.0
1,4-Dichlorobenzene		57.6	10	85	3.1	30.0
3,3'-Dichlorobenzidine		57.4	27	110	4.6	30.0
2,4-Dichlorophenol		64.8	33	106	3.4	30.0
Diethyl phthalate		71.3	36	116	7.1	30.0
2,4-Dimethylphenol		61.0	30	105	1.7	30.0
Dimethyl phthalate		69.6	35	116	4.9	30.0
4,6-Dinitro-2-methylphenol		65.1	19	116	10.7	30.0
2,4-Dinitrophenol		49.8	10	125	14.3	30.0
2,4-Dinitrotoluene		71.5	33	119	7.8	30.0
2,6-Dinitrotoluene		70.0	34	117	4.5	30.0
1,2-Diphenylhydrazine		69.0	34	113	6.2	30.0
di-n-Octyl phthalate		72.7	30	133	4.4	30.0
Fluoranthene		71.9	35	121	6.9	30.0
Fluorene		69.4	32	114	4.4	30.0
Hexachlorobenzene		72.1	26	126	8.2	30.0
Hexachlorobutadiene		62.5	10	95	2.0	30.0
Hexachlorocyclopentadiene		73.6	10	90	2.4	30.0
Hexachloroethane		55.7	10	82	2.3	30.0
Indeno(1,2,3-cd)pyrene		67.6	31	124	2.9	30.0

QC Report - Batch QC Results

Organics - Semi-Volatiles, Prep Batch ID: SF230222W1 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: P230223B.4549110N, Parent Sample ID: P230223B.4549109M

Run in Batch: P230223B, Run Date: 02/24/2023 00:41, Prep Date: 02/22/2023, Matrix: WW, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isophorone		63.7	26	104	1.1	30.0
2-Methylnaphthalene		63.8	21	103	2.3	30.0
Naphthalene		63.7	21	99	1.0	30.0
2-Nitroaniline		67.1	34	111	4.6	30.0
3-Nitroaniline		46.4	34	111	7.4	30.0
4-Nitroaniline		60.6	34	100	2.7	30.0
Nitrobenzene		59.7	30	98	1.6	30.0
2-Nitrophenol		62.4	31	108	0.1	30.0
4-Nitrophenol		37.6	10	90	4.9	30.0
N-Nitrosodiphenylamine		70.1	31	120	3.6	30.0
N-Nitrosodi-n-propylamine		61.4	33	102	2.2	30.0
Pentachlorophenol		55.1	10	108	7.9	30.0
Phenanthrene		70.0	35	113	7.2	30.0
Phenol		25.6	10	43	1.4	30.0
Pyrene		70.1	33	120	5.1	30.0
1,2,4-Trichlorobenzene		63.0	10	98	0.0	30.0
2,4,5-Trichlorophenol		69.9	31	120	5.9	30.0
2,4,6-Trichlorophenol		65.8	31	114	3.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230220W2

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

Blank (BLK)

Lab Sample ID: 230220A7.BLKW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 15:20, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230220W2 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230220A7.BLKW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 15:20, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230220A7.LCSW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 13:46, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		108.4	67.4	121.2
Acetone		117.5	29.9	161.5
Methyl iodide		108.7	68.8	116.4
Carbon disulfide		98.9	63.8	137.4
tert-Methyl butyl ether (MTBE)		113.8	73.2	122.4
Acrylonitrile		113.1	69.9	128.9
2-Butanone (MEK)		117.5	44.0	134.4
Dichlorodifluoromethane		85.4	10.0	222.8
Chloromethane		123.6	23.8	166.5
Vinyl chloride		113.4	43.5	149.1
Bromomethane		128.5	56.8	151.3
Chloroethane		126.0	53.4	149.4
Trichlorofluoromethane		103.7	59.7	151.8
1,1-Dichloroethene		100.9	69.6	139.4
Methylene chloride		111.2	73.3	121.1
trans-1,2-Dichloroethene		105.1	73.6	129.3
1,1-Dichloroethane		106.6	71.5	126.2
cis-1,2-Dichloroethene		109.2	76.6	122.1
Tetrahydrofuran		107.2	59.0	117.9
Chloroform		109.2	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230220W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230220A7.LCSW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 13:46, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		111.5	78.2	120.8
1,1,1-Trichloroethane		99.4	79.4	130.9
4-Methyl-2-pentanone (MIBK)		109.3	71.6	125.2
2-Hexanone		116.3	55.4	136.9
Carbon tetrachloride		94.7	72.6	133.0
Benzene		108.2	79.9	124.9
1,2-Dichloroethane		109.2	76.0	126.3
Trichloroethene		105.1	79.7	124.2
1,2-Dichloropropane		112.3	78.6	126.4
Bromodichloromethane		112.4	80.4	128.2
Dibromomethane		116.7	76.9	122.1
cis-1,3-Dichloropropene		116.2	79.8	129.9
Toluene		109.3	79.8	124.5
trans-1,3-Dichloropropene		115.3	74.0	131.3
1,1,2-Trichloroethane		115.6	78.7	123.1
Tetrachloroethene		107.2	74.5	124.5
trans-1,4-Dichloro-2-butene		94.0	68.6	135.4
Dibromochloromethane		112.4	74.6	127.2
1,2-Dibromoethane		113.3	70.3	133.7
Chlorobenzene		109.2	79.2	122.7
1,1,1,2-Tetrachloroethane		109.2	80.3	128.2
Ethylbenzene		108.9	79.5	129.1
p,m-Xylene		107.9	79.4	132.2
o-Xylene		109.3	80.2	131.0
Styrene		113.1	69.5	126.7
Isopropylbenzene		106.8	74.4	121.5
Bromoform		110.2	69.4	128.0
1,1,2,2-Tetrachloroethane		112.4	79.8	126.3
1,2,3-Trichloropropane		111.9	78.3	138.8
n-Propylbenzene		108.8	82.0	130.7
Bromobenzene		114.0	78.7	124.6
1,3,5-Trimethylbenzene		108.5	81.3	128.9
tert-Butylbenzene		107.0	80.7	128.9
1,2,4-Trimethylbenzene		109.3	81.4	130.8
sec-Butylbenzene		110.9	77.4	129.8
p-Isopropyltoluene		112.9	79.8	137.5
1,3-Dichlorobenzene		113.2	77.0	131.3
1,4-Dichlorobenzene		115.4	20.7	137.7
1,2-Dichlorobenzene		113.9	10.0	166.2
1,2,3-Trimethylbenzene		113.3	76.3	124.2
n-Butylbenzene		114.9	80.0	133.3
Hexachloroethane		110.9	23.8	138.1
1,2-Dibromo-3-chloropropane		111.5	21.2	189.4
1,2,4-Trichlorobenzene		121.8	27.4	143.4
1,2,3-Trichlorobenzene		124.5	75.4	131.4
Naphthalene		116.3	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230220W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230220A7.LCSW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 13:46, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		127.7	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230220A7.LCSDW20A, Parent Sample ID: 230220A7.LCSW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 14:09, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		109.2	67.4	121.2	0.7	30.0
Acetone		97.9	29.9	161.5	18.2	30.0
Methyl iodide		90.7	68.8	116.4	18.0	30.0
Carbon disulfide		82.6	63.8	137.4	17.9	30.0
tert-Methyl butyl ether (MTBE)		95.1	73.2	122.4	17.9	30.0
Acrylonitrile		95.2	69.9	128.9	17.2	30.0
2-Butanone (MEK)		103.7	44.0	134.4	12.5	30.0
Dichlorodifluoromethane		67.5	10.0	222.8	23.4	30.0
Chloromethane		94.9	23.8	166.5	26.3	30.0
Vinyl chloride		86.2	43.5	149.1	27.3	30.0
Bromomethane		97.4	56.8	151.3	27.5	30.0
Chloroethane		98.6	53.4	149.4	24.4	30.0
Trichlorofluoromethane		81.9	59.7	151.8	23.4	30.0
1,1-Dichloroethene		101.5	69.6	139.4	0.6	30.0
Methylene chloride		93.0	73.3	121.1	17.9	30.0
trans-1,2-Dichloroethene		86.5	73.6	129.3	19.4	30.0
1,1-Dichloroethane		90.0	71.5	126.2	16.9	30.0
cis-1,2-Dichloroethene		90.6	76.6	122.1	18.7	30.0
Tetrahydrofuran		87.6	59.0	117.9	20.1	30.0
Chloroform		90.4	78.4	124.0	18.9	30.0
Bromochloromethane		93.2	78.2	120.8	17.9	30.0
1,1,1-Trichloroethane		82.0	79.4	130.9	19.1	30.0
4-Methyl-2-pentanone (MIBK)		91.7	71.6	125.2	17.5	30.0
2-Hexanone		93.0	55.4	136.9	22.3	30.0
Carbon tetrachloride		76.3	72.6	133.0	21.5	30.0
Benzene		88.2	79.9	124.9	20.3	30.0
1,2-Dichloroethane		89.7	76.0	126.3	19.6	30.0
Trichloroethene		84.6	79.7	124.2	21.6	30.0
1,2-Dichloropropane		92.7	78.6	126.4	19.2	30.0
Bromodichloromethane		91.9	80.4	128.2	20.1	30.0
Dibromomethane		93.4	76.9	122.1	22.2	30.0
cis-1,3-Dichloropropene		92.7	79.8	129.9	22.5	30.0
Toluene		88.8	79.8	124.5	20.7	30.0
trans-1,3-Dichloropropene		91.9	74.0	131.3	22.6	30.0
1,1,2-Trichloroethane		93.5	78.7	123.1	21.1	30.0
Tetrachloroethene		84.1	74.5	124.5	24.2	30.0
trans-1,4-Dichloro-2-butene		75.2	68.6	135.4	22.2	30.0
Dibromochloromethane		89.0	74.6	127.2	23.2	30.0
1,2-Dibromoethane		92.8	70.3	133.7	19.8	30.0
Chlorobenzene		87.8	79.2	122.7	21.8	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230220W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230220A7.LCSDW20A, Parent Sample ID: 230220A7.LCSW20A

Run in Batch: 230220A7, Run Date: 02/20/2023 14:09, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		89.7	80.3	128.2	19.6	30.0
Ethylbenzene		87.4	79.5	129.1	21.9	30.0
p,m-Xylene		87.4	79.4	132.2	21.0	30.0
o-Xylene		88.4	80.2	131.0	21.1	30.0
Styrene		90.5	69.5	126.7	22.2	30.0
Isopropylbenzene		86.6	74.4	121.5	20.9	30.0
Bromoform		90.1	69.4	128.0	20.0	30.0
1,1,2,2-Tetrachloroethane		92.9	79.8	126.3	19.0	30.0
1,2,3-Trichloropropane		90.4	78.3	138.8	21.2	30.0
n-Propylbenzene		86.9	82.0	130.7	22.4	30.0
Bromobenzene		92.6	78.7	124.6	20.7	30.0
1,3,5-Trimethylbenzene		87.8	81.3	128.9	21.1	30.0
tert-Butylbenzene		84.3	80.7	128.9	23.8	30.0
1,2,4-Trimethylbenzene		88.4	81.4	130.8	21.1	30.0
sec-Butylbenzene		87.5	77.4	129.8	23.6	30.0
p-Isopropyltoluene		88.6	79.8	137.5	24.1	30.0
1,3-Dichlorobenzene		91.3	77.0	131.3	21.4	30.0
1,4-Dichlorobenzene		93.0	20.7	137.7	21.5	30.0
1,2-Dichlorobenzene		92.7	10.0	166.2	20.5	30.0
1,2,3-Trimethylbenzene		92.7	76.3	124.2	20.1	30.0
n-Butylbenzene		91.8	80.0	133.3	22.4	30.0
Hexachloroethane		87.1	23.8	138.1	24.0	30.0
1,2-Dibromo-3-chloropropane		91.2	21.2	189.4	20.0	30.0
1,2,4-Trichlorobenzene		96.1	27.4	143.4	23.6	30.0
1,2,3-Trichlorobenzene		98.6	75.4	131.4	23.3	30.0
Naphthalene		92.9	32.9	135.8	22.4	30.0
2-Methylnaphthalene		97.6	25.5	165.5	26.7	30.0

Matrix Spike (MS)

Lab Sample ID: 230220A7.4549109M, Parent Sample ID: S45491.08

Run in Batch: 230220A7, Run Date: 02/20/2023 23:27, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether	*	127.4	67.4	121.2
Acetone		128.1	29.9	161.5
Methyl iodide		98.6	68.8	116.4
Carbon disulfide		88.5	63.8	137.4
tert-Methyl butyl ether (MTBE)		110.5	73.2	122.4
Acrylonitrile		124.8	69.9	128.9
2-Butanone (MEK)	*	136.0	44.0	134.4
Dichlorodifluoromethane		85.4	10.0	222.8
Chloromethane		108.9	23.8	166.5
Vinyl chloride		98.6	43.5	149.1
Bromomethane		107.7	56.8	151.3
Chloroethane		108.6	53.4	149.4
Trichlorofluoromethane		94.5	59.7	151.8
1,1-Dichloroethene		105.4	69.6	139.4

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230220W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230220A7.4549109M, Parent Sample ID: S45491.08

Run in Batch: 230220A7, Run Date: 02/20/2023 23:27, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Methylene chloride		103.1	73.3	121.1
trans-1,2-Dichloroethene		95.8	73.6	129.3
1,1-Dichloroethane		100.6	71.5	126.2
cis-1,2-Dichloroethene		100.0	76.6	122.1
Tetrahydrofuran		116.4	59.0	117.9
Chloroform		100.2	78.4	124.0
Bromochloromethane		102.5	78.2	120.8
1,1,1-Trichloroethane		91.0	79.4	130.9
4-Methyl-2-pentanone (MIBK)		109.6	71.6	125.2
2-Hexanone		111.6	55.4	136.9
Carbon tetrachloride		83.8	72.6	133.0
Benzene		92.9	79.9	124.9
1,2-Dichloroethane		95.7	76.0	126.3
Trichloroethene		91.0	79.7	124.2
1,2-Dichloropropane		95.3	78.6	126.4
Bromodichloromethane		93.9	80.4	128.2
Dibromomethane		99.3	76.9	122.1
cis-1,3-Dichloropropene		94.5	79.8	129.9
Toluene		93.7	79.8	124.5
trans-1,3-Dichloropropene		93.1	74.0	131.3
1,1,2-Trichloroethane		98.8	78.7	123.1
Tetrachloroethene		92.2	74.5	124.5
trans-1,4-Dichloro-2-butene		82.2	68.6	135.4
Dibromochloromethane		91.0	74.6	127.2
1,2-Dibromoethane		96.3	70.3	133.7
Chlorobenzene		91.2	79.2	122.7
1,1,1,2-Tetrachloroethane		90.2	80.3	128.2
Ethylbenzene		93.3	79.5	129.1
p,m-Xylene		90.7	79.4	132.2
o-Xylene		92.4	80.2	131.0
Styrene		91.5	69.5	126.7
Isopropylbenzene		92.7	74.4	121.5
Bromoform		91.3	69.4	128.0
1,1,2,2-Tetrachloroethane		101.3	79.8	126.3
1,2,3-Trichloropropane		98.7	78.3	138.8
n-Propylbenzene		93.1	82.0	130.7
Bromobenzene		94.6	78.7	124.6
1,3,5-Trimethylbenzene		92.4	81.3	128.9
tert-Butylbenzene		90.7	80.7	128.9
1,2,4-Trimethylbenzene		93.1	81.4	130.8
sec-Butylbenzene		94.2	77.4	129.8
p-Isopropyltoluene		95.3	79.8	137.5
1,3-Dichlorobenzene		94.3	77.0	131.3
1,4-Dichlorobenzene		95.6	20.7	137.7
1,2-Dichlorobenzene		94.9	10.0	166.2
1,2,3-Trimethylbenzene		94.9	76.3	124.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230220W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230220A7.4549109M, Parent Sample ID: S45491.08

Run in Batch: 230220A7, Run Date: 02/20/2023 23:27, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
n-Butylbenzene		96.0	80.0	133.3
Hexachloroethane		86.3	23.8	138.1
1,2-Dibromo-3-chloropropane		103.2	21.2	189.4
1,2,4-Trichlorobenzene		99.6	27.4	143.4
1,2,3-Trichlorobenzene		97.2	75.4	131.4
Naphthalene		99.9	32.9	135.8
2-Methylnaphthalene		97.6	25.5	165.5

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230220A7.4549110N, Parent Sample ID: 230220A7.4549109M

Run in Batch: 230220A7, Run Date: 02/20/2023 23:50, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		116.2	67.4	121.2	9.2	30.0
Acetone		110.8	29.9	161.5	14.4	30.0
Methyl iodide		91.3	68.8	116.4	7.6	30.0
Carbon disulfide		84.9	63.8	137.4	4.2	30.0
tert-Methyl butyl ether (MTBE)		98.1	73.2	122.4	11.8	30.0
Acrylonitrile		105.6	69.9	128.9	16.6	30.0
2-Butanone (MEK)		107.2	44.0	134.4	23.7	30.0
Dichlorodifluoromethane		72.3	10.0	222.8	16.7	30.0
Chloromethane		96.3	23.8	166.5	12.3	30.0
Vinyl chloride		91.5	43.5	149.1	7.5	30.0
Bromomethane		100.5	56.8	151.3	6.9	30.0
Chloroethane		103.2	53.4	149.4	5.1	30.0
Trichlorofluoromethane		86.9	59.7	151.8	8.4	30.0
1,1-Dichloroethene		88.8	69.6	139.4	17.2	30.0
Methylene chloride		96.0	73.3	121.1	7.1	30.0
trans-1,2-Dichloroethene		90.1	73.6	129.3	6.2	30.0
1,1-Dichloroethane		91.4	71.5	126.2	9.5	30.0
cis-1,2-Dichloroethene		91.5	76.6	122.1	8.9	30.0
Tetrahydrofuran		95.2	59.0	117.9	20.0	30.0
Chloroform		92.0	78.4	124.0	8.5	30.0
Bromochloromethane		94.7	78.2	120.8	7.9	30.0
1,1,1-Trichloroethane		85.1	79.4	130.9	6.7	30.0
4-Methyl-2-pentanone (MIBK)		98.8	71.6	125.2	10.3	30.0
2-Hexanone		104.5	55.4	136.9	6.6	30.0
Carbon tetrachloride		77.4	72.6	133.0	8.0	30.0
Benzene		88.8	79.9	124.9	4.4	30.0
1,2-Dichloroethane		90.4	76.0	126.3	5.7	30.0
Trichloroethene		84.2	79.7	124.2	7.8	30.0
1,2-Dichloropropane		92.0	78.6	126.4	3.6	30.0
Bromodichloromethane		90.1	80.4	128.2	4.0	30.0
Dibromomethane		94.4	76.9	122.1	5.1	30.0
cis-1,3-Dichloropropene		91.4	79.8	129.9	3.4	30.0
Toluene		89.0	79.8	124.5	5.2	30.0
trans-1,3-Dichloropropene		90.5	74.0	131.3	2.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230220W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 230220A7.4549110N, Parent Sample ID: 230220A7.4549109M

Run in Batch: 230220A7, Run Date: 02/20/2023 23:50, Prep Date: 02/20/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloroethane		95.4	78.7	123.1	3.5	30.0
Tetrachloroethene		84.0	74.5	124.5	9.3	30.0
trans-1,4-Dichloro-2-butene		80.3	68.6	135.4	2.4	30.0
Dibromochloromethane		87.3	74.6	127.2	4.1	30.0
1,2-Dibromoethane		92.6	70.3	133.7	3.8	30.0
Chlorobenzene		88.8	79.2	122.7	2.7	30.0
1,1,1,2-Tetrachloroethane		87.4	80.3	128.2	3.2	30.0
Ethylbenzene		87.1	79.5	129.1	6.9	30.0
p,m-Xylene		85.7	79.4	132.2	5.6	30.0
o-Xylene		87.5	80.2	131.0	5.5	30.0
Styrene		88.9	69.5	126.7	2.8	30.0
Isopropylbenzene		85.6	74.4	121.5	8.0	30.0
Bromoform		88.9	69.4	128.0	2.7	30.0
1,1,2,2-Tetrachloroethane		97.1	79.8	126.3	4.3	30.0
1,2,3-Trichloropropane		96.5	78.3	138.8	2.2	30.0
n-Propylbenzene		85.2	82.0	130.7	8.8	30.0
Bromobenzene		91.4	78.7	124.6	3.4	30.0
1,3,5-Trimethylbenzene		86.4	81.3	128.9	6.7	30.0
tert-Butylbenzene		84.0	80.7	128.9	7.7	30.0
1,2,4-Trimethylbenzene		87.6	81.4	130.8	6.1	30.0
sec-Butylbenzene		85.9	77.4	129.8	9.3	30.0
p-Isopropyltoluene		85.9	79.8	137.5	10.3	30.0
1,3-Dichlorobenzene		89.3	77.0	131.3	5.4	30.0
1,4-Dichlorobenzene		90.0	20.7	137.7	6.0	30.0
1,2-Dichlorobenzene		90.8	10.0	166.2	4.4	30.0
1,2,3-Trimethylbenzene		90.0	76.3	124.2	5.3	30.0
n-Butylbenzene		87.2	80.0	133.3	9.6	30.0
Hexachloroethane		81.8	23.8	138.1	5.4	30.0
1,2-Dibromo-3-chloropropane		97.1	21.2	189.4	6.1	30.0
1,2,4-Trichlorobenzene		94.9	27.4	143.4	4.8	30.0
1,2,3-Trichlorobenzene		97.6	75.4	131.4	0.5	30.0
Naphthalene		98.3	32.9	135.8	1.7	30.0
2-Methylnaphthalene		99.7	25.5	165.5	2.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230223W3

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

Blank (BLK)

Lab Sample ID: 230223C7.BLKW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 05:58, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230223W3 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230223C7.BLKW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 05:58, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230223C7.LCSW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 04:24, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		117.0	67.4	121.2
Acetone		117.6	29.9	161.5
Methyl iodide		99.6	68.8	116.4
Carbon disulfide		98.0	63.8	137.4
tert-Methyl butyl ether (MTBE)		100.8	73.2	122.4
Acrylonitrile		106.1	69.9	128.9
2-Butanone (MEK)		107.9	44.0	134.4
Dichlorodifluoromethane		97.8	10.0	222.8
Chloromethane		121.2	23.8	166.5
Vinyl chloride		118.6	43.5	149.1
Bromomethane		121.9	56.8	151.3
Chloroethane		124.4	53.4	149.4
Trichlorofluoromethane		108.3	59.7	151.8
1,1-Dichloroethene		102.6	69.6	139.4
Methylene chloride		99.9	73.3	121.1
trans-1,2-Dichloroethene		100.9	73.6	129.3
1,1-Dichloroethane		101.1	71.5	126.2
cis-1,2-Dichloroethene		99.1	76.6	122.1
Tetrahydrofuran		97.0	59.0	117.9
Chloroform		98.8	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230223W3 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230223C7.LCSW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 04:24, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		97.0	78.2	120.8
1,1,1-Trichloroethane		95.3	79.4	130.9
4-Methyl-2-pentanone (MIBK)		103.0	71.6	125.2
2-Hexanone		106.2	55.4	136.9
Carbon tetrachloride		93.2	72.6	133.0
Benzene		100.2	79.9	124.9
1,2-Dichloroethane		98.0	76.0	126.3
Trichloroethene		97.6	79.7	124.2
1,2-Dichloropropane		101.5	78.6	126.4
Bromodichloromethane		97.9	80.4	128.2
Dibromomethane		98.4	76.9	122.1
cis-1,3-Dichloropropene		98.9	79.8	129.9
Toluene		101.1	79.8	124.5
trans-1,3-Dichloropropene		97.6	74.0	131.3
1,1,2-Trichloroethane		100.6	78.7	123.1
Tetrachloroethene		98.9	74.5	124.5
trans-1,4-Dichloro-2-butene		89.2	68.6	135.4
Dibromochloromethane		91.1	74.6	127.2
1,2-Dibromoethane		95.7	70.3	133.7
Chlorobenzene		96.4	79.2	122.7
1,1,1,2-Tetrachloroethane		92.5	80.3	128.2
Ethylbenzene		99.2	79.5	129.1
p,m-Xylene		96.9	79.4	132.2
o-Xylene		95.6	80.2	131.0
Styrene		97.2	69.5	126.7
Isopropylbenzene		97.7	74.4	121.5
Bromoform		91.3	69.4	128.0
1,1,2,2-Tetrachloroethane		99.6	79.8	126.3
1,2,3-Trichloropropane		96.9	78.3	138.8
n-Propylbenzene		98.0	82.0	130.7
Bromobenzene		97.8	78.7	124.6
1,3,5-Trimethylbenzene		95.9	81.3	128.9
tert-Butylbenzene		95.2	80.7	128.9
1,2,4-Trimethylbenzene		96.6	81.4	130.8
sec-Butylbenzene		100.1	77.4	129.8
p-Isopropyltoluene		99.8	79.8	137.5
1,3-Dichlorobenzene		98.0	77.0	131.3
1,4-Dichlorobenzene		98.6	20.7	137.7
1,2-Dichlorobenzene		98.1	10.0	166.2
1,2,3-Trimethylbenzene		100.8	76.3	124.2
n-Butylbenzene		102.0	80.0	133.3
Hexachloroethane		95.1	23.8	138.1
1,2-Dibromo-3-chloropropane		98.8	21.2	189.4
1,2,4-Trichlorobenzene		102.2	27.4	143.4
1,2,3-Trichlorobenzene		105.0	75.4	131.4
Naphthalene		101.8	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230223W3 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230223C7.LCSW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 04:24, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		107.0	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230223C7.LCSDW23C, Parent Sample ID: 230223C7.LCSW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 04:48, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		96.0	67.4	121.2	19.7	30.0
Acetone		101.9	29.9	161.5	14.3	30.0
Methyl iodide		97.8	68.8	116.4	1.8	30.0
Carbon disulfide		95.7	63.8	137.4	2.3	30.0
tert-Methyl butyl ether (MTBE)		99.5	73.2	122.4	1.3	30.0
Acrylonitrile		97.4	69.9	128.9	8.6	30.0
2-Butanone (MEK)		94.3	44.0	134.4	13.4	30.0
Dichlorodifluoromethane		96.8	10.0	222.8	1.0	30.0
Chloromethane		123.9	23.8	166.5	2.2	30.0
Vinyl chloride		120.3	43.5	149.1	1.5	30.0
Bromomethane		124.8	56.8	151.3	2.4	30.0
Chloroethane		127.9	53.4	149.4	2.8	30.0
Trichlorofluoromethane		109.0	59.7	151.8	0.6	30.0
1,1-Dichloroethene		100.0	69.6	139.4	2.5	30.0
Methylene chloride		100.6	73.3	121.1	0.6	30.0
trans-1,2-Dichloroethene		98.6	73.6	129.3	2.3	30.0
1,1-Dichloroethane		99.5	71.5	126.2	1.6	30.0
cis-1,2-Dichloroethene		99.7	76.6	122.1	0.6	30.0
Tetrahydrofuran		84.3	59.0	117.9	14.0	30.0
Chloroform		100.5	78.4	124.0	1.8	30.0
Bromochloromethane		99.1	78.2	120.8	2.2	30.0
1,1,1-Trichloroethane		95.5	79.4	130.9	0.2	30.0
4-Methyl-2-pentanone (MIBK)		93.7	71.6	125.2	9.5	30.0
2-Hexanone		91.7	55.4	136.9	14.6	30.0
Carbon tetrachloride		90.5	72.6	133.0	2.9	30.0
Benzene		99.2	79.9	124.9	1.0	30.0
1,2-Dichloroethane		98.9	76.0	126.3	0.9	30.0
Trichloroethene		97.6	79.7	124.2	0.1	30.0
1,2-Dichloropropane		101.8	78.6	126.4	0.3	30.0
Bromodichloromethane		99.9	80.4	128.2	2.0	30.0
Dibromomethane		100.3	76.9	122.1	2.0	30.0
cis-1,3-Dichloropropene		101.2	79.8	129.9	2.3	30.0
Toluene		100.2	79.8	124.5	0.9	30.0
trans-1,3-Dichloropropene		98.9	74.0	131.3	1.3	30.0
1,1,2-Trichloroethane		101.1	78.7	123.1	0.5	30.0
Tetrachloroethene		98.7	74.5	124.5	0.2	30.0
trans-1,4-Dichloro-2-butene		83.0	68.6	135.4	7.1	30.0
Dibromochloromethane		92.5	74.6	127.2	1.6	30.0
1,2-Dibromoethane		94.5	70.3	133.7	1.2	30.0
Chlorobenzene		96.3	79.2	122.7	0.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230223W3 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230223C7.LCSDW23C, Parent Sample ID: 230223C7.LCSW23C

Run in Batch: 230223C7, Run Date: 02/24/2023 04:48, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		95.6	80.3	128.2	3.3	30.0
Ethylbenzene		96.6	79.5	129.1	2.6	30.0
p,m-Xylene		95.4	79.4	132.2	1.6	30.0
o-Xylene		97.7	80.2	131.0	2.2	30.0
Styrene		98.2	69.5	126.7	1.0	30.0
Isopropylbenzene		96.6	74.4	121.5	1.2	30.0
Bromoform		89.6	69.4	128.0	1.9	30.0
1,1,2,2-Tetrachloroethane		92.7	79.8	126.3	7.2	30.0
1,2,3-Trichloropropane		90.8	78.3	138.8	6.5	30.0
n-Propylbenzene		97.1	82.0	130.7	0.9	30.0
Bromobenzene		98.3	78.7	124.6	0.5	30.0
1,3,5-Trimethylbenzene		96.9	81.3	128.9	1.1	30.0
tert-Butylbenzene		95.5	80.7	128.9	0.3	30.0
1,2,4-Trimethylbenzene		96.3	81.4	130.8	0.2	30.0
sec-Butylbenzene		100.2	77.4	129.8	0.0	30.0
p-Isopropyltoluene		99.7	79.8	137.5	0.1	30.0
1,3-Dichlorobenzene		98.9	77.0	131.3	1.0	30.0
1,4-Dichlorobenzene		100.5	20.7	137.7	1.9	30.0
1,2-Dichlorobenzene		99.9	10.0	166.2	1.9	30.0
1,2,3-Trimethylbenzene		100.9	76.3	124.2	0.1	30.0
n-Butylbenzene		100.9	80.0	133.3	1.1	30.0
Hexachloroethane		93.6	23.8	138.1	1.6	30.0
1,2-Dibromo-3-chloropropane		87.3	21.2	189.4	12.4	30.0
1,2,4-Trichlorobenzene		103.5	27.4	143.4	1.2	30.0
1,2,3-Trichlorobenzene		104.6	75.4	131.4	0.4	30.0
Naphthalene		95.2	32.9	135.8	6.6	30.0
2-Methylnaphthalene		102.2	25.5	165.5	4.6	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS230223W1

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

Blank (BLK)

Lab Sample ID: 230223A9.BLKW23A

Run in Batch: 230223A9, Run Date: 02/23/2023 13:54, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane		ND	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230223A9.LCSS23A

Run in Batch: 230223A9, Run Date: 02/23/2023 12:30, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		92.6	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230223A9.LCSDS23A, Parent Sample ID: 230223A9.LCSS23A

Run in Batch: 230223A9, Run Date: 02/23/2023 12:51, Prep Date: 02/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		90.3	70.0	130.0	2.6	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS230224W1

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

Blank (BLK)

Lab Sample ID: 230224A9.BLKW24A

Run in Batch: 230224A9, Run Date: 02/24/2023 16:38, Prep Date: 02/24/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane		ND	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230224A9.LCSS24A

Run in Batch: 230224A9, Run Date: 02/24/2023 14:12, Prep Date: 02/24/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		95.3	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230224A9.LCSD24A, Parent Sample ID: 230224A9.LCSS24A

Run in Batch: 230224A9, Run Date: 02/24/2023 14:33, Prep Date: 02/24/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		88.0	70.0	130.0	7.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS230227W1

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

Blank (BLK)

Lab Sample ID: 230227A9.BLKW27A

Run in Batch: 230227A9, Run Date: 02/27/2023 16:44, Prep Date: 02/27/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane		ND	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230227A9.LCSS27A

Run in Batch: 230227A9, Run Date: 02/27/2023 14:18, Prep Date: 02/27/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		89.8	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230227A9.LCSDS27A, Parent Sample ID: 230227A9.LCSS27A

Run in Batch: 230227A9, Run Date: 02/27/2023 14:39, Prep Date: 02/27/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		96.7	70.0	130.0	7.4	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS230228W1

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

Blank (BLK)

Lab Sample ID: 230228A9.BLKS28A

Run in Batch: 230228A9, Run Date: 02/28/2023 14:52, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane		ND	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230228A9.LCSS28A

Run in Batch: 230228A9, Run Date: 02/28/2023 11:59, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		84.0	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230228A9.LCSDS28A, Parent Sample ID: 230228A9.LCSS28A

Run in Batch: 230228A9, Run Date: 02/28/2023 12:27, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		85.6	70.0	130.0	1.9	30.0

Matrix Spike (MS)

Lab Sample ID: 230228A9.4549109M, Parent Sample ID: S45491.08

Run in Batch: 230228A9, Run Date: 02/28/2023 12:48, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		85.7	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 230228A9.4549403M, Parent Sample ID: S45494.02

Run in Batch: 230228A9, Run Date: 02/28/2023 13:29, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		101.0	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230228A9.4549110N, Parent Sample ID: 230228A9.4549109M

Run in Batch: 230228A9, Run Date: 02/28/2023 13:08, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		110.1	70.0	130.0	24.9	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230228A9.4549404N, Parent Sample ID: 230228A9.4549403M

Run in Batch: 230228A9, Run Date: 02/28/2023 13:49, Prep Date: 02/28/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		100.1	70.0	130.0	0.7	30.0

Merit Laboratories Login Checklist

Lab Set ID:S45491

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30112892 / RACER Lansing

Submitted:02/17/2023 15:30 Login User: MMC

Attention: Kaitlyn Hunt

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 FAX:

Email: Kaitlyn.Hunt@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 5.4
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____

REPORT TO

CHAIN OF CUSTODY RECORD *Plant 2*

INVOICE TO

CONTACT NAME Kaitlin Hunt			
COMPANY Arcadis			
ADDRESS 28550 Cabot Drive, Suite 500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 947-777-5215		CELL NO. 947-777-5215	P.O. NO.
E-MAIL ADDRESS Kaitlin.Hunt@arcadis.com			QUOTE NO.

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME 30112892 / RACER Lansing	SAMPLER(S) - PLEASE PRINT/SIGN NAME Austin Westhuis / Ann Wil
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER	
DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER	

Certifications

☐ OHIO VAP ☐ Drinking Water

☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☒ Other MI

Special Instructions

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

Containers & Preservatives

[illegible]

RELINQUISHED BY:	<i>Amel W. L. / Arcadis</i>	~~De~~ ampler	DATE	TIME
SIGNATURE/ORGANIZATION			2/17/23	1530
RECEIVED BY:	<i>Sophanna Murray</i>		DATE	TIME
SIGNATURE/ORGANIZATION			2/17/23	1530
RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				

RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL _____ 5.4	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		



Analytical Laboratory Report

Report ID: S48713.01(01)+QC01
Generated on 05/26/2023

Report to
Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 C:947-777-5215 FAX:
Email: Kaitlyn.Hunt@arcadis.com

Additional Contacts: Marina Samp, Tiffany Linder, Caitlin Cisco

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): S48713.01-S48713.08
Project: 30171056.0470A / RACER Lansing
Collected Date(s): 05/16/2023 - 05/17/2023
Submitted Date/Time: 05/17/2023 16:50
Sampled by: Jackie Schulte
P.O. #: 30171056.0470A

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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).
When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.
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, and 2-chloroethylvinyl ether 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.
Wisconsin PFAS analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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
N/A	Not Applicable
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S48713.01	MW-21-139_051623	Groundwater	05/16/23 14:20
S48713.02	DUP-01_051623	Groundwater	05/16/23 00:01
S48713.03	MW-14-58R_051623	Groundwater	05/16/23 16:30
S48713.04	MW-22-156_051723	Groundwater	05/17/23 09:35
S48713.05	MW-22-153_051723	Groundwater	05/17/23 11:00
S48713.06	MW-22-155_051723	Groundwater	05/17/23 13:06
S48713.07	MW-22-157_051723	Groundwater	05/17/23 15:10
S48713.08	Trip Blank	Water	05/17/23 00:01



Analytical Laboratory Report

Lab Sample ID: S48713.01
Sample Tag: MW-21-139_051623
Collected Date/Time: 05/16/2023 14:20
Matrix: Groundwater
COC Reference: 152804

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/24/23 10:30	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 05/23/23 14:59, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	2	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S48713.02
Sample Tag: DUP-01_051623
Collected Date/Time: 05/16/2023 00:01
Matrix: Groundwater
COC Reference: 152804

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/24/23 10:30	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 05/25/23 19:07, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	2	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S48713.03

Sample Tag: MW-14-58R_051623

Collected Date/Time: 05/16/2023 16:30

Matrix: Groundwater

COC Reference: 152804

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/23/23 11:00	BDO	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 05/23/23 15:42, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	173	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/22/23 17:02, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S48713.03 (continued)

Sample Tag: MW-14-58R_051623

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/22/23 17:02, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S48713.04

Sample Tag: MW-22-156_051723

Collected Date/Time: 05/17/2023 09:35

Matrix: Groundwater

COC Reference: 152804

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/23/23 11:00	BDO	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 05/23/23 21:56, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	101	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/22/23 17:21, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	1	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	27	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	38	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	471	1		ug/L	1	75-34-3	E
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	1	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	

E-Concentration exceeds calibration range

Lab Sample ID: S48713.04 (continued)

Sample Tag: MW-22-156_051723

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/22/23 17:21, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 05/23/23 20:55, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S48713.04 (continued)

Sample Tag: MW-22-156_051723

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 05/23/23 20:55, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	30	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	320	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	Not detected	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	Not detected	10		ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S48713.04 (continued)

Sample Tag: MW-22-156_051723

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 05/23/23 20:55, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S48713.05

Sample Tag: MW-22-153_051723

Collected Date/Time: 05/17/2023 11:00

Matrix: Groundwater

COC Reference: 152804

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/23/23 11:00	BDO	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 05/23/23 16:04, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	61	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/22/23 17:41, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	52	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	

Lab Sample ID: S48713.05 (continued)

Sample Tag: MW-22-153_051723

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/22/23 17:41, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S48713.06

Sample Tag: MW-22-155_051723

Collected Date/Time: 05/17/2023 13:06

Matrix: Groundwater

COC Reference: 152804

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/23/23 11:00	BDO	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 05/24/23 22:24, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	270	10		ug/L	10	123-91-1	Y

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/22/23 18:01, Analyst: KAG

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

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S48713.06 (continued)

Sample Tag: MW-22-155_051723

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/22/23 18:01, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S48713.07
Sample Tag: MW-22-157_051723
Collected Date/Time: 05/17/2023 15:10
Matrix: Groundwater
COC Reference: 152804

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/24/23 10:30	NDK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 05/23/23 16:48, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	44	1		ug/L	1	123-91-1	



Analytical Laboratory Report

Lab Sample ID: S48713.08

Sample Tag: Trip Blank

Collected Date/Time: 05/17/2023 00:01

Matrix: Water

COC Reference: 152804

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	3.1	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/23/23 11:00	BDO	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/22/23 16:43, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S48713.08 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/22/23 16:43, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Quality Control Report

Report ID: S48713.01(01)+QC01
Generated on 05/26/2023

Report to
Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Report Produced by
Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

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

Phone: O:248-809-4013 C:947-777-5215 FAX:

Report Summary
Lab Sample ID(s): S48713.01-S48713.08
Project: 30171056.0470A / RACER Lansing
Submitted Date/Time: 05/17/2023 16:50
Sampled by: Jackie Schulte
P.O. #: 30171056.0470A

QC Report Sections
Cover Page (Page 21)
Analysis Summary (Pages 22-29)
Prep Batch Summary (Page 30)
Surrogates per Lab Sample (Pages 31-35)
Surrogates per QC Sample (Pages 36-41)
Internal Standards per Lab Sample (Pages 42-49)
Internal Standards per QC Sample (Pages 50-55)
Batch QC Results (Pages 56-71)

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: S48713.01

Sample Tag: MW-21-139_051623

Collected Date/Time: 05/16/2023 14:20

Matrix: Groundwater

COC Reference: 152804

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	05/23/23 14:59	230523A9	VS230523W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S48713.02

Sample Tag: DUP-01_051623

Collected Date/Time: 05/16/2023 00:01

Matrix: Groundwater

COC Reference: 152804

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	05/25/23 19:07	230525A9	VS230525W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S48713.03

Sample Tag: MW-14-58R_051623

Collected Date/Time: 05/16/2023 16:30

Matrix: Groundwater

COC Reference: 152804

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	05/23/23 15:42	230523A9	VS230523W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	05/22/23 17:02	230522A9	VF230522W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S48713.04

Sample Tag: MW-22-156_051723

Collected Date/Time: 05/17/2023 09:35

Matrix: Groundwater

COC Reference: 152804

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	05/23/23 21:56	230523A9	VS230523W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	05/22/23 17:21	230522A9	VF230522W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List (Replicate 01)	SW5030C/8260C	05/23/23 20:55	230523A3	VF230523W2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S48713.05

Sample Tag: MW-22-153_051723

Collected Date/Time: 05/17/2023 11:00

Matrix: Groundwater

COC Reference: 152804

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	05/23/23 16:04	230523A9	VS230523W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	05/22/23 17:41	230522A9	VF230522W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S48713.06

Sample Tag: MW-22-155_051723

Collected Date/Time: 05/17/2023 13:06

Matrix: Groundwater

COC Reference: 152804

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	05/24/23 22:24	230524A9	VS230524W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	05/22/23 18:01	230522A9	VF230522W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S48713.07

Sample Tag: MW-22-157_051723

Collected Date/Time: 05/17/2023 15:10

Matrix: Groundwater

COC Reference: 152804

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	05/23/23 16:48	230523A9	VS230523W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S48713.08

Sample Tag: Trip Blank

Collected Date/Time: 05/17/2023 00:01

Matrix: Water

COC Reference: 152804

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	05/22/23 16:43	230522A9	VF230522W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF230522W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S48713.03	Volatile Organics - DEQ List	SW5030C/8260C	05/22/23 17:02	230522A9
S48713.04	Volatile Organics - DEQ List	SW5030C/8260C	05/22/23 17:21	230522A9
S48713.05	Volatile Organics - DEQ List	SW5030C/8260C	05/22/23 17:41	230522A9
S48713.06	Volatile Organics - DEQ List	SW5030C/8260C	05/22/23 18:01	230522A9
S48713.08	Volatile Organics - DEQ List	SW5030C/8260C	05/22/23 16:43	230522A9

Organics - Volatiles, Prep Batch ID: VF230523W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S48713.04	Volatile Organics - DEQ List (Replicate 01)	SW5030C/8260C	05/23/23 20:55	230523A3

Organics - Volatiles, Prep Batch ID: VS230523W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S48713.01	1,4-Dioxane	SW8260B - SIM	05/23/23 14:59	230523A9
S48713.03	1,4-Dioxane	SW8260B - SIM	05/23/23 15:42	230523A9
S48713.04	1,4-Dioxane	SW8260B - SIM	05/23/23 21:56	230523A9
S48713.05	1,4-Dioxane	SW8260B - SIM	05/23/23 16:04	230523A9
S48713.07	1,4-Dioxane	SW8260B - SIM	05/23/23 16:48	230523A9

Organics - Volatiles, Prep Batch ID: VS230524W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S48713.06	1,4-Dioxane	SW8260B - SIM	05/24/23 22:24	230524A9

Organics - Volatiles, Prep Batch ID: VS230525W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S48713.02	1,4-Dioxane	SW8260B - SIM	05/25/23 19:07	230525A9

QC Report - Surrogates per Lab Sample

Lab Sample ID: S48713.03

Sample Tag: MW-14-58R_051623

Collected Date/Time: 05/16/2023 16:30

Matrix: Groundwater

COC Reference: 152804

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230522A9, Run Date: 05/22/2023 17:02, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.3	80.0	124.0
1,2-Dichloroethane-D4		121.0	72.0	125.0
Toluene-D8		101.9	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S48713.04

Sample Tag: MW-22-156_051723

Collected Date/Time: 05/17/2023 09:35

Matrix: Groundwater

COC Reference: 152804

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230522A9, Run Date: 05/22/2023 17:21, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.4	80.0	124.0
1,2-Dichloroethane-D4		119.3	72.0	125.0
Toluene-D8		101.5	89.0	112.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List (Replicate 01)

Run in Batch: 230523A3, Run Date: 05/23/2023 20:55, Matrix: WW, Dilution: 10

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		96.9	80.0	124.0
1,2-Dichloroethane-D4		82.8	72.0	125.0
Toluene-D8		90.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S48713.05

Sample Tag: MW-22-153_051723

Collected Date/Time: 05/17/2023 11:00

Matrix: Groundwater

COC Reference: 152804

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230522A9, Run Date: 05/22/2023 17:41, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.3	80.0	124.0
1,2-Dichloroethane-D4		122.2	72.0	125.0
Toluene-D8		100.8	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S48713.06

Sample Tag: MW-22-155_051723

Collected Date/Time: 05/17/2023 13:06

Matrix: Groundwater

COC Reference: 152804

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230522A9, Run Date: 05/22/2023 18:01, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.9	80.0	124.0
1,2-Dichloroethane-D4		121.7	72.0	125.0
Toluene-D8		101.3	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S48713.08

Sample Tag: Trip Blank

Collected Date/Time: 05/17/2023 00:01

Matrix: Water

COC Reference: 152804

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230522A9, Run Date: 05/22/2023 16:43, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		90.8	80.0	124.0
1,2-Dichloroethane-D4		107.4	72.0	125.0
Toluene-D8		101.0	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230522W1

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

Blank (BLK)

Lab Sample ID: 230522A9.BLKW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 14:47, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.0	80.0	124.0
1,2-Dichloroethane-D4		104.8	72.0	125.0
Toluene-D8		99.5	89.0	112.0

Blank (BLK)

Lab Sample ID: 230522B9.BLKW22A

Run in Batch: 230522B9, Run Date: 05/22/2023 14:47, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
Toluene-D8		102.7	86.0	118.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230522A9.LCSW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 13:10, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.7	80.0	124.0
1,2-Dichloroethane-D4		100.4	72.0	125.0
Toluene-D8		99.6	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230522B9.LCSG22A

Run in Batch: 230522B9, Run Date: 05/22/2023 14:08, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
Toluene-D8		104.1	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230522A9.LCSDW22A, Parent Sample ID: 230522A9.LCSW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 13:29, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.2	80.0	124.0
1,2-Dichloroethane-D4		97.0	72.0	125.0
Toluene-D8		98.6	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230522B9.LCSDG22A, Parent Sample ID: 230522B9.LCSG22A

Run in Batch: 230522B9, Run Date: 05/22/2023 14:27, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
Toluene-D8		103.7	86.0	118.0

QC Report - Surrogates per QC Sample

Matrix Spike (MS)

Lab Sample ID: 230522A9.4871414M, Parent Sample ID: S48714.13

Run in Batch: 230522A9, Run Date: 05/22/2023 21:15, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.6	80.0	124.0
1,2-Dichloroethane-D4		107.6	72.0	125.0
Toluene-D8		98.9	89.0	112.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230522A9.4871415N, Parent Sample ID: 230522A9.4871414M

Run in Batch: 230522A9, Run Date: 05/22/2023 21:34, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.5	80.0	124.0
1,2-Dichloroethane-D4		102.4	72.0	125.0
Toluene-D8		100.9	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230523W2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230523A3.BLKW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 14:15, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.5	80.0	124.0
1,2-Dichloroethane-D4		80.2	72.0	125.0
Toluene-D8		90.7	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230523A3.LCSW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 12:40, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.5	80.0	124.0
1,2-Dichloroethane-D4		76.0	72.0	125.0
Toluene-D8		91.7	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230523A3.LCSDW23A, Parent Sample ID: 230523A3.LCSW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 13:04, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.0	80.0	124.0
1,2-Dichloroethane-D4		79.0	72.0	125.0
Toluene-D8		91.7	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS230523W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230523A9.BLKS23A

Run in Batch: 230523A9, Run Date: 05/23/2023 14:38, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 230523A9.LCSS23A

Run in Batch: 230523A9, Run Date: 05/23/2023 13:15, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230523A9.LCSDS23A, Parent Sample ID: 230523A9.LCSS23A

Run in Batch: 230523A9, Run Date: 05/23/2023 13:36, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS230524W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230524A9.BLKS24A

Run in Batch: 230524A9, Run Date: 05/24/2023 14:32, Prep Date: 05/24/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 230524A9.LCSS24A

Run in Batch: 230524A9, Run Date: 05/24/2023 13:09, Prep Date: 05/24/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230524A9.LCSDS24A, Parent Sample ID: 230524A9.LCSS24A

Run in Batch: 230524A9, Run Date: 05/24/2023 13:30, Prep Date: 05/24/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS230525W1

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

Blank (BLK)

Lab Sample ID: 230525A9.BLKS25A

Run in Batch: 230525A9, Run Date: 05/25/2023 12:57, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample (LCS)

Lab Sample ID: 230525A9.LCSS25A

Run in Batch: 230525A9, Run Date: 05/25/2023 10:53, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230525A9.LCSDS25A, Parent Sample ID: 230525A9.LCSS25A

Run in Batch: 230525A9, Run Date: 05/25/2023 11:14, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 230525A9.4882702M, Parent Sample ID: S48827.01

Run in Batch: 230525A9, Run Date: 05/25/2023 20:32, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 230525A9.4892802M, Parent Sample ID: S48928.01

Run in Batch: 230525A9, Run Date: 05/25/2023 11:34, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230525A9.4882703N, Parent Sample ID: 230525A9.4882702M

Run in Batch: 230525A9, Run Date: 05/25/2023 20:53, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230525A9.4892803N, Parent Sample ID: 230525A9.4892802M

Run in Batch: 230525A9, Run Date: 05/25/2023 11:55, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S48713.01

Sample Tag: MW-21-139_051623

Collected Date/Time: 05/16/2023 14:20

Matrix: Groundwater

COC Reference: 152804

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230523A9, Run Date: 05/23/2023 14:59, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		109.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S48713.02

Sample Tag: DUP-01_051623

Collected Date/Time: 05/16/2023 00:01

Matrix: Groundwater

COC Reference: 152804

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230525A9, Run Date: 05/25/2023 19:07, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		97.0	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S48713.03

Sample Tag: MW-14-58R_051623

Collected Date/Time: 05/16/2023 16:30

Matrix: Groundwater

COC Reference: 152804

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230523A9, Run Date: 05/23/2023 15:42, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		110.0	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230522A9, Run Date: 05/22/2023 17:02, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		83.3	50.0	200.0
1,4-Difluorobenzene		89.6	50.0	200.0
Chlorobenzene-D5		92.0	50.0	200.0
1,4-Dichlorobenzene-D4		84.5	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S48713.04

Sample Tag: MW-22-156_051723

Collected Date/Time: 05/17/2023 09:35

Matrix: Groundwater

COC Reference: 152804

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230523A9, Run Date: 05/23/2023 21:56, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		109.1	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230522A9, Run Date: 05/22/2023 17:21, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		81.6	50.0	200.0
1,4-Difluorobenzene		87.4	50.0	200.0
Chlorobenzene-D5		88.9	50.0	200.0
1,4-Dichlorobenzene-D4		80.0	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List (Replicate 01)

Run in Batch: 230523A3, Run Date: 05/23/2023 20:55, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		95.5	50.0	200.0
1,4-Difluorobenzene		96.6	50.0	200.0
Chlorobenzene-D5		95.3	50.0	200.0
1,4-Dichlorobenzene-D4		95.4	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S48713.05

Sample Tag: MW-22-153_051723

Collected Date/Time: 05/17/2023 11:00

Matrix: Groundwater

COC Reference: 152804

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230523A9, Run Date: 05/23/2023 16:04, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		108.5	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230522A9, Run Date: 05/22/2023 17:41, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		83.3	50.0	200.0
1,4-Difluorobenzene		89.6	50.0	200.0
Chlorobenzene-D5		91.4	50.0	200.0
1,4-Dichlorobenzene-D4		83.4	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S48713.06

Sample Tag: MW-22-155_051723

Collected Date/Time: 05/17/2023 13:06

Matrix: Groundwater

COC Reference: 152804

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230524A9, Run Date: 05/24/2023 22:24, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		75.5	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230522A9, Run Date: 05/22/2023 18:01, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		82.2	50.0	200.0
1,4-Difluorobenzene		88.9	50.0	200.0
Chlorobenzene-D5		91.2	50.0	200.0
1,4-Dichlorobenzene-D4		83.7	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S48713.07

Sample Tag: MW-22-157_051723

Collected Date/Time: 05/17/2023 15:10

Matrix: Groundwater

COC Reference: 152804

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230523A9, Run Date: 05/23/2023 16:48, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		106.0	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S48713.08

Sample Tag: Trip Blank

Collected Date/Time: 05/17/2023 00:01

Matrix: Water

COC Reference: 152804

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230522A9, Run Date: 05/22/2023 16:43, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		87.2	50.0	200.0
1,4-Difluorobenzene		91.3	50.0	200.0
Chlorobenzene-D5		91.0	50.0	200.0
1,4-Dichlorobenzene-D4		78.8	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF230522W1

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

Blank (BLK)

Lab Sample ID: 230522A9.BLKW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 14:47, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		93.6	50.0	200.0
1,4-Difluorobenzene		97.3	50.0	200.0
Chlorobenzene-D5		95.0	50.0	200.0
1,4-Dichlorobenzene-D4		84.0	50.0	200.0

Blank (BLK)

Lab Sample ID: 230522B9.BLKW22A

Run in Batch: 230522B9, Run Date: 05/22/2023 14:47, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Difluorobenzene		93.6	50.0	200.0
Chlorobenzene-D5		91.4	50.0	200.0
1,4-Dichlorobenzene-D4		86.1	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230522A9.LCSW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 13:10, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		105.6	50.0	200.0
1,4-Difluorobenzene		105.9	50.0	200.0
Chlorobenzene-D5		104.8	50.0	200.0
1,4-Dichlorobenzene-D4		105.0	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230522B9.LCSG22A

Run in Batch: 230522B9, Run Date: 05/22/2023 14:08, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Difluorobenzene		94.7	50.0	200.0
Chlorobenzene-D5		93.8	50.0	200.0
1,4-Dichlorobenzene-D4		95.7	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230522A9.LCSDW22A, Parent Sample ID: 230522A9.LCSW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 13:29, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		102.1	50.0	200.0
1,4-Difluorobenzene		101.5	50.0	200.0
Chlorobenzene-D5		98.8	50.0	200.0
1,4-Dichlorobenzene-D4		97.9	50.0	200.0

QC Report - Internal Standards per QC Sample

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230522B9.LCSDG22A, Parent Sample ID: 230522B9.LCSG22A

Run in Batch: 230522B9, Run Date: 05/22/2023 14:27, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Difluorobenzene		97.7	50.0	200.0
Chlorobenzene-D5		96.6	50.0	200.0
1,4-Dichlorobenzene-D4		97.5	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 230522A9.4871414M, Parent Sample ID: S48714.13

Run in Batch: 230522A9, Run Date: 05/22/2023 21:15, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		98.3	50.0	200.0
1,4-Difluorobenzene		99.5	50.0	200.0
Chlorobenzene-D5		101.5	50.0	200.0
1,4-Dichlorobenzene-D4		103.7	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230522A9.4871415N, Parent Sample ID: 230522A9.4871414M

Run in Batch: 230522A9, Run Date: 05/22/2023 21:34, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		100.9	50.0	200.0
1,4-Difluorobenzene		100.6	50.0	200.0
Chlorobenzene-D5		101.8	50.0	200.0
1,4-Dichlorobenzene-D4		102.1	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF230523W2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230523A3.BLKW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 14:15, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		93.0	50.0	200.0
1,4-Difluorobenzene		93.3	50.0	200.0
Chlorobenzene-D5		91.7	50.0	200.0
1,4-Dichlorobenzene-D4		90.6	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230523A3.LCSW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 12:40, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		95.7	50.0	200.0
1,4-Difluorobenzene		95.0	50.0	200.0
Chlorobenzene-D5		92.9	50.0	200.0
1,4-Dichlorobenzene-D4		90.4	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230523A3.LCSDW23A, Parent Sample ID: 230523A3.LCSW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 13:04, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		95.4	50.0	200.0
1,4-Difluorobenzene		94.0	50.0	200.0
Chlorobenzene-D5		92.4	50.0	200.0
1,4-Dichlorobenzene-D4		92.3	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS230523W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230523A9.BLKS23A

Run in Batch: 230523A9, Run Date: 05/23/2023 14:38, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		101.3	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230523A9.LCSS23A

Run in Batch: 230523A9, Run Date: 05/23/2023 13:15, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		109.2	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230523A9.LCSDS23A, Parent Sample ID: 230523A9.LCSS23A

Run in Batch: 230523A9, Run Date: 05/23/2023 13:36, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		106.7	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS230524W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230524A9.BLKS24A

Run in Batch: 230524A9, Run Date: 05/24/2023 14:32, Prep Date: 05/24/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		88.7	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230524A9.LCSS24A

Run in Batch: 230524A9, Run Date: 05/24/2023 13:09, Prep Date: 05/24/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		111.1	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230524A9.LCSDS24A, Parent Sample ID: 230524A9.LCSS24A

Run in Batch: 230524A9, Run Date: 05/24/2023 13:30, Prep Date: 05/24/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		96.1	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS230525W1

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

Blank (BLK)

Lab Sample ID: 230525A9.BLKS25A

Run in Batch: 230525A9, Run Date: 05/25/2023 12:57, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		102.8	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230525A9.LCSS25A

Run in Batch: 230525A9, Run Date: 05/25/2023 10:53, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		97.1	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230525A9.LCSDS25A, Parent Sample ID: 230525A9.LCSS25A

Run in Batch: 230525A9, Run Date: 05/25/2023 11:14, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		97.6	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 230525A9.4882702M, Parent Sample ID: S48827.01

Run in Batch: 230525A9, Run Date: 05/25/2023 20:32, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		94.8	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 230525A9.4892802M, Parent Sample ID: S48928.01

Run in Batch: 230525A9, Run Date: 05/25/2023 11:34, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		110.9	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230525A9.4882703N, Parent Sample ID: 230525A9.4882702M

Run in Batch: 230525A9, Run Date: 05/25/2023 20:53, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		98.2	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230525A9.4892803N, Parent Sample ID: 230525A9.4892802M

Run in Batch: 230525A9, Run Date: 05/25/2023 11:55, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		99.7	50.0	200.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230522W1

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

Blank (BLK)

Lab Sample ID: 230522A9.BLKW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 14:47, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230522W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230522A9.BLKW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 14:47, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230522A9.LCSW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 13:10, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		113.3	67.4	121.2
Acetone		113.3	29.9	161.5
Methyl iodide	*	117.6	68.8	116.4
Carbon disulfide		120.7	63.8	137.4
tert-Methyl butyl ether (MTBE)		117.9	73.2	122.4
Acrylonitrile		110.6	69.9	128.9
2-Butanone (MEK)		109.9	44.0	134.4
Dichlorodifluoromethane		108.2	10.0	222.8
Chloromethane		114.7	23.8	166.5
Vinyl chloride		113.0	43.5	149.1
Bromomethane		113.2	56.8	151.3
Chloroethane		109.5	53.4	149.4
Trichlorofluoromethane		111.2	59.7	151.8
1,1-Dichloroethene		117.7	69.6	139.4
Methylene chloride		112.7	73.3	121.1
trans-1,2-Dichloroethene		115.5	73.6	129.3
1,1-Dichloroethane		114.3	71.5	126.2
cis-1,2-Dichloroethene		113.1	76.6	122.1
Tetrahydrofuran		107.4	59.0	117.9
Chloroform		113.2	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230522W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230522A9.LCSW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 13:10, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		112.8	78.2	120.8
1,1,1-Trichloroethane		114.3	79.4	130.9
4-Methyl-2-pentanone (MIBK)		116.3	71.6	125.2
2-Hexanone		119.5	55.4	136.9
Carbon tetrachloride		113.7	72.6	133.0
Benzene		112.2	79.9	124.9
1,2-Dichloroethane		109.9	76.0	126.3
Trichloroethene		113.3	79.7	124.2
1,2-Dichloropropane		111.5	78.6	126.4
Bromodichloromethane		110.4	80.4	128.2
Dibromomethane		109.4	76.9	122.1
cis-1,3-Dichloropropene		115.5	79.8	129.9
Toluene		113.9	79.8	124.5
trans-1,3-Dichloropropene		114.9	74.0	131.3
1,1,2-Trichloroethane		108.9	78.7	123.1
Tetrachloroethene		114.2	74.5	124.5
trans-1,4-Dichloro-2-butene		118.7	68.6	135.4
Dibromochloromethane		112.2	74.6	127.2
1,2-Dibromoethane		112.0	70.3	133.7
Chlorobenzene		112.5	79.2	122.7
1,1,1,2-Tetrachloroethane		115.5	80.3	128.2
Ethylbenzene		115.1	79.5	129.1
p,m-Xylene		116.3	79.4	132.2
o-Xylene		115.7	80.2	131.0
Styrene		114.9	69.5	126.7
Isopropylbenzene		117.4	74.4	121.5
Bromoform		113.3	69.4	128.0
1,1,2,2-Tetrachloroethane		114.4	79.8	126.3
1,2,3-Trichloropropane		108.4	78.3	138.8
n-Propylbenzene		116.8	82.0	130.7
Bromobenzene		114.2	78.7	124.6
1,3,5-Trimethylbenzene		116.1	81.3	128.9
tert-Butylbenzene		116.8	80.7	128.9
1,2,4-Trimethylbenzene		119.6	81.4	130.8
sec-Butylbenzene		115.9	77.4	129.8
p-Isopropyltoluene		115.6	79.8	137.5
1,3-Dichlorobenzene		113.1	77.0	131.3
1,4-Dichlorobenzene		113.8	20.7	137.7
1,2-Dichlorobenzene		113.3	10.0	166.2
1,2,3-Trimethylbenzene		114.6	76.3	124.2
n-Butylbenzene		115.6	80.0	133.3
Hexachloroethane		118.7	23.8	138.1
1,2-Dibromo-3-chloropropane		113.3	21.2	189.4
1,2,4-Trichlorobenzene		114.3	27.4	143.4
1,2,3-Trichlorobenzene		115.3	75.4	131.4
Naphthalene		114.6	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230522W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230522A9.LCSW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 13:10, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		122.1	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230522A9.LCSDW22A, Parent Sample ID: 230522A9.LCSW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 13:29, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		110.2	67.4	121.2	2.8	30.0
Acetone		112.8	29.9	161.5	0.4	30.0
Methyl iodide		116.2	68.8	116.4	1.2	30.0
Carbon disulfide		118.7	63.8	137.4	1.6	30.0
tert-Methyl butyl ether (MTBE)		117.6	73.2	122.4	0.3	30.0
Acrylonitrile		114.8	69.9	128.9	3.8	30.0
2-Butanone (MEK)		114.7	44.0	134.4	4.2	30.0
Dichlorodifluoromethane		120.1	10.0	222.8	10.4	30.0
Chloromethane		113.2	23.8	166.5	1.2	30.0
Vinyl chloride		113.9	43.5	149.1	0.8	30.0
Bromomethane		110.1	56.8	151.3	2.8	30.0
Chloroethane		107.2	53.4	149.4	2.2	30.0
Trichlorofluoromethane		115.6	59.7	151.8	3.9	30.0
1,1-Dichloroethene		117.1	69.6	139.4	0.6	30.0
Methylene chloride		110.6	73.3	121.1	1.9	30.0
trans-1,2-Dichloroethene		113.4	73.6	129.3	1.9	30.0
1,1-Dichloroethane		112.5	71.5	126.2	1.6	30.0
cis-1,2-Dichloroethene		111.9	76.6	122.1	1.0	30.0
Tetrahydrofuran		111.7	59.0	117.9	3.9	30.0
Chloroform		110.8	78.4	124.0	2.2	30.0
Bromochloromethane		113.2	78.2	120.8	0.3	30.0
1,1,1-Trichloroethane		111.4	79.4	130.9	2.6	30.0
4-Methyl-2-pentanone (MIBK)		118.7	71.6	125.2	2.1	30.0
2-Hexanone		121.8	55.4	136.9	1.9	30.0
Carbon tetrachloride		115.7	72.6	133.0	1.7	30.0
Benzene		110.4	79.9	124.9	1.7	30.0
1,2-Dichloroethane		108.1	76.0	126.3	1.6	30.0
Trichloroethene		113.2	79.7	124.2	0.1	30.0
1,2-Dichloropropane		110.8	78.6	126.4	0.6	30.0
Bromodichloromethane		110.3	80.4	128.2	0.1	30.0
Dibromomethane		109.6	76.9	122.1	0.2	30.0
cis-1,3-Dichloropropene		111.9	79.8	129.9	3.2	30.0
Toluene		111.5	79.8	124.5	2.1	30.0
trans-1,3-Dichloropropene		113.6	74.0	131.3	1.1	30.0
1,1,2-Trichloroethane		109.7	78.7	123.1	0.7	30.0
Tetrachloroethene		113.0	74.5	124.5	1.1	30.0
trans-1,4-Dichloro-2-butene		121.1	68.6	135.4	2.0	30.0
Dibromochloromethane		113.9	74.6	127.2	1.5	30.0
1,2-Dibromoethane		114.0	70.3	133.7	1.7	30.0
Chlorobenzene		111.4	79.2	122.7	1.0	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230522W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230522A9.LCSDW22A, Parent Sample ID: 230522A9.LCSW22A

Run in Batch: 230522A9, Run Date: 05/22/2023 13:29, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		112.5	80.3	128.2	2.6	30.0
Ethylbenzene		113.6	79.5	129.1	1.3	30.0
p,m-Xylene		115.1	79.4	132.2	1.0	30.0
o-Xylene		114.9	80.2	131.0	0.7	30.0
Styrene		114.1	69.5	126.7	0.7	30.0
Isopropylbenzene		116.7	74.4	121.5	0.6	30.0
Bromoform		115.7	69.4	128.0	2.1	30.0
1,1,2,2-Tetrachloroethane		117.3	79.8	126.3	2.6	30.0
1,2,3-Trichloropropane		111.5	78.3	138.8	2.8	30.0
n-Propylbenzene		116.8	82.0	130.7	0.1	30.0
Bromobenzene		114.5	78.7	124.6	0.3	30.0
1,3,5-Trimethylbenzene		115.8	81.3	128.9	0.3	30.0
tert-Butylbenzene		116.6	80.7	128.9	0.2	30.0
1,2,4-Trimethylbenzene		118.1	81.4	130.8	1.3	30.0
sec-Butylbenzene		117.4	77.4	129.8	1.3	30.0
p-Isopropyltoluene		117.0	79.8	137.5	1.2	30.0
1,3-Dichlorobenzene		113.1	77.0	131.3	0.0	30.0
1,4-Dichlorobenzene		113.9	20.7	137.7	0.0	30.0
1,2-Dichlorobenzene		114.8	10.0	166.2	1.4	30.0
1,2,3-Trimethylbenzene		114.9	76.3	124.2	0.3	30.0
n-Butylbenzene		115.7	80.0	133.3	0.1	30.0
Hexachloroethane		119.6	23.8	138.1	0.8	30.0
1,2-Dibromo-3-chloropropane		120.6	21.2	189.4	6.2	30.0
1,2,4-Trichlorobenzene		118.1	27.4	143.4	3.3	30.0
1,2,3-Trichlorobenzene		118.3	75.4	131.4	2.6	30.0
Naphthalene		122.6	32.9	135.8	6.8	30.0
2-Methylnaphthalene		130.2	25.5	165.5	6.5	30.0

Matrix Spike (MS)

Lab Sample ID: 230522A9.4871414M, Parent Sample ID: S48714.13

Run in Batch: 230522A9, Run Date: 05/22/2023 21:15, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		113.9	67.4	121.2
Acetone		115.4	29.9	161.5
Methyl iodide		116.0	68.8	116.4
Carbon disulfide		117.8	63.8	137.4
tert-Methyl butyl ether (MTBE)		117.7	73.2	122.4
Acrylonitrile		115.8	69.9	128.9
2-Butanone (MEK)		117.0	44.0	134.4
Dichlorodifluoromethane		118.0	10.0	222.8
Chloromethane		109.2	23.8	166.5
Vinyl chloride		113.6	43.5	149.1
Bromomethane		109.1	56.8	151.3
Chloroethane		107.3	53.4	149.4
Trichlorofluoromethane		116.2	59.7	151.8
1,1-Dichloroethene		116.6	69.6	139.4

Organics - Volatiles, Prep Batch ID: VF230522W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230522A9.4871414M, Parent Sample ID: S48714.13

Run in Batch: 230522A9, Run Date: 05/22/2023 21:15, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Methylene chloride		111.5	73.3	121.1
trans-1,2-Dichloroethene		112.1	73.6	129.3
1,1-Dichloroethane		111.8	71.5	126.2
cis-1,2-Dichloroethene		112.1	76.6	122.1
Tetrahydrofuran		108.5	59.0	117.9
Chloroform		112.4	78.4	124.0
Bromochloromethane		114.5	78.2	120.8
1,1,1-Trichloroethane		110.9	79.4	130.9
4-Methyl-2-pentanone (MIBK)		118.8	71.6	125.2
2-Hexanone		121.1	55.4	136.9
Carbon tetrachloride		113.3	72.6	133.0
Benzene		110.7	79.9	124.9
1,2-Dichloroethane		109.7	76.0	126.3
Trichloroethene		110.3	79.7	124.2
1,2-Dichloropropane		112.0	78.6	126.4
Bromodichloromethane		110.1	80.4	128.2
Dibromomethane		110.7	76.9	122.1
cis-1,3-Dichloropropene		111.2	79.8	129.9
Toluene		110.0	79.8	124.5
trans-1,3-Dichloropropene		112.9	74.0	131.3
1,1,2-Trichloroethane		112.0	78.7	123.1
Tetrachloroethene		110.3	74.5	124.5
trans-1,4-Dichloro-2-butene		110.3	68.6	135.4
Dibromochloromethane		109.7	74.6	127.2
1,2-Dibromoethane		108.7	70.3	133.7
Chlorobenzene		106.6	79.2	122.7
1,1,1,2-Tetrachloroethane		108.5	80.3	128.2
Ethylbenzene		107.6	79.5	129.1
p,m-Xylene		108.6	79.4	132.2
o-Xylene		108.5	80.2	131.0
Styrene		109.6	69.5	126.7
Isopropylbenzene		109.8	74.4	121.5
Bromoform		109.4	69.4	128.0
1,1,2,2-Tetrachloroethane		110.7	79.8	126.3
1,2,3-Trichloropropane		108.7	78.3	138.8
n-Propylbenzene		109.3	82.0	130.7
Bromobenzene		109.5	78.7	124.6
1,3,5-Trimethylbenzene		108.2	81.3	128.9
tert-Butylbenzene		107.5	80.7	128.9
1,2,4-Trimethylbenzene		111.9	81.4	130.8
sec-Butylbenzene		105.1	77.4	129.8
p-Isopropyltoluene		104.0	79.8	137.5
1,3-Dichlorobenzene		103.1	77.0	131.3
1,4-Dichlorobenzene		104.6	20.7	137.7
1,2-Dichlorobenzene		105.8	10.0	166.2
1,2,3-Trimethylbenzene		105.2	76.3	124.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230522W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230522A9.4871414M, Parent Sample ID: S48714.13

Run in Batch: 230522A9, Run Date: 05/22/2023 21:15, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
n-Butylbenzene		100.4	80.0	133.3
Hexachloroethane		103.4	23.8	138.1
1,2-Dibromo-3-chloropropane		107.3	21.2	189.4
1,2,4-Trichlorobenzene		101.8	27.4	143.4
1,2,3-Trichlorobenzene		102.7	75.4	131.4
Naphthalene		107.5	32.9	135.8
2-Methylnaphthalene		106.2	25.5	165.5

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230522A9.4871415N, Parent Sample ID: 230522A9.4871414M

Run in Batch: 230522A9, Run Date: 05/22/2023 21:34, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		108.4	67.4	121.2	4.9	30.0
Acetone		111.2	29.9	161.5	3.5	30.0
Methyl iodide		113.0	68.8	116.4	2.7	30.0
Carbon disulfide		114.8	63.8	137.4	2.5	30.0
tert-Methyl butyl ether (MTBE)		114.5	73.2	122.4	2.7	30.0
Acrylonitrile		112.0	69.9	128.9	3.3	30.0
2-Butanone (MEK)		109.7	44.0	134.4	6.5	30.0
Dichlorodifluoromethane		106.5	10.0	222.8	10.2	30.0
Chloromethane		108.5	23.8	166.5	0.7	30.0
Vinyl chloride		110.9	43.5	149.1	2.4	30.0
Bromomethane		106.5	56.8	151.3	2.4	30.0
Chloroethane		105.6	53.4	149.4	1.7	30.0
Trichlorofluoromethane		110.2	59.7	151.8	5.3	30.0
1,1-Dichloroethene		113.8	69.6	139.4	2.4	30.0
Methylene chloride		110.2	73.3	121.1	1.2	30.0
trans-1,2-Dichloroethene		110.4	73.6	129.3	1.5	30.0
1,1-Dichloroethane		109.9	71.5	126.2	1.7	30.0
cis-1,2-Dichloroethene		109.1	76.6	122.1	2.7	30.0
Tetrahydrofuran		98.7	59.0	117.9	9.5	30.0
Chloroform		109.6	78.4	124.0	2.5	30.0
Bromochloromethane		110.8	78.2	120.8	3.3	30.0
1,1,1-Trichloroethane		109.6	79.4	130.9	1.2	30.0
4-Methyl-2-pentanone (MIBK)		113.9	71.6	125.2	4.2	30.0
2-Hexanone		116.3	55.4	136.9	4.0	30.0
Carbon tetrachloride		112.9	72.6	133.0	0.3	30.0
Benzene		107.9	79.9	124.9	2.6	30.0
1,2-Dichloroethane		105.9	76.0	126.3	3.5	30.0
Trichloroethene		109.6	79.7	124.2	0.7	30.0
1,2-Dichloropropane		108.8	78.6	126.4	2.8	30.0
Bromodichloromethane		107.3	80.4	128.2	2.5	30.0
Dibromomethane		109.0	76.9	122.1	1.5	30.0
cis-1,3-Dichloropropene		108.4	79.8	129.9	2.6	30.0
Toluene		109.1	79.8	124.5	0.8	30.0
trans-1,3-Dichloropropene		109.5	74.0	131.3	3.0	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230522W1 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 230522A9.4871415N, Parent Sample ID: 230522A9.4871414M

Run in Batch: 230522A9, Run Date: 05/22/2023 21:34, Prep Date: 05/22/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloroethane		108.0	78.7	123.1	3.6	30.0
Tetrachloroethene		108.2	74.5	124.5	1.8	30.0
trans-1,4-Dichloro-2-butene		106.5	68.6	135.4	3.5	30.0
Dibromochloromethane		106.8	74.6	127.2	2.7	30.0
1,2-Dibromoethane		107.9	70.3	133.7	0.8	30.0
Chlorobenzene		105.5	79.2	122.7	1.0	30.0
1,1,1,2-Tetrachloroethane		107.1	80.3	128.2	1.3	30.0
Ethylbenzene		107.0	79.5	129.1	0.5	30.0
p,m-Xylene		107.9	79.4	132.2	0.6	30.0
o-Xylene		108.7	80.2	131.0	0.2	30.0
Styrene		108.4	69.5	126.7	1.1	30.0
Isopropylbenzene		109.2	74.4	121.5	0.6	30.0
Bromoform		106.7	69.4	128.0	2.5	30.0
1,1,2,2-Tetrachloroethane		111.7	79.8	126.3	0.9	30.0
1,2,3-Trichloropropane		104.5	78.3	138.8	3.9	30.0
n-Propylbenzene		108.6	82.0	130.7	0.7	30.0
Bromobenzene		108.6	78.7	124.6	0.8	30.0
1,3,5-Trimethylbenzene		108.4	81.3	128.9	0.2	30.0
tert-Butylbenzene		108.7	80.7	128.9	1.1	30.0
1,2,4-Trimethylbenzene		111.7	81.4	130.8	0.2	30.0
sec-Butylbenzene		107.1	77.4	129.8	1.8	30.0
p-Isopropyltoluene		106.7	79.8	137.5	2.5	30.0
1,3-Dichlorobenzene		103.8	77.0	131.3	0.7	30.0
1,4-Dichlorobenzene		104.9	20.7	137.7	0.3	30.0
1,2-Dichlorobenzene		106.6	10.0	166.2	0.8	30.0
1,2,3-Trimethylbenzene		106.1	76.3	124.2	0.9	30.0
n-Butylbenzene		103.4	80.0	133.3	3.0	30.0
Hexachloroethane		106.3	23.8	138.1	2.8	30.0
1,2-Dibromo-3-chloropropane		107.5	21.2	189.4	0.2	30.0
1,2,4-Trichlorobenzene		104.8	27.4	143.4	2.9	30.0
1,2,3-Trichlorobenzene		105.9	75.4	131.4	3.0	30.0
Naphthalene		108.2	32.9	135.8	0.6	30.0
2-Methylnaphthalene		109.5	25.5	165.5	3.0	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230523W2

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

Blank (BLK)

Lab Sample ID: 230523A3.BLKW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 14:15, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230523W2 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230523A3.BLKW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 14:15, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230523A3.LCSW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 12:40, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		110.7	67.4	121.2
Acetone		79.0	29.9	161.5
Methyl iodide		108.9	68.8	116.4
Carbon disulfide		116.5	63.8	137.4
tert-Methyl butyl ether (MTBE)		95.2	73.2	122.4
Acrylonitrile		95.6	69.9	128.9
2-Butanone (MEK)		87.4	44.0	134.4
Dichlorodifluoromethane		115.0	10.0	222.8
Chloromethane		128.7	23.8	166.5
Vinyl chloride		126.3	43.5	149.1
Bromomethane		105.7	56.8	151.3
Chloroethane		112.0	53.4	149.4
Trichlorofluoromethane		96.3	59.7	151.8
1,1-Dichloroethene		103.2	69.6	139.4
Methylene chloride		106.9	73.3	121.1
trans-1,2-Dichloroethene		101.1	73.6	129.3
1,1-Dichloroethane		103.5	71.5	126.2
cis-1,2-Dichloroethene		104.4	76.6	122.1
Tetrahydrofuran		78.0	59.0	117.9
Chloroform		97.4	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230523W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230523A3.LCSW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 12:40, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		101.0	78.2	120.8
1,1,1-Trichloroethane		91.1	79.4	130.9
4-Methyl-2-pentanone (MIBK)		95.4	71.6	125.2
2-Hexanone		96.7	55.4	136.9
Carbon tetrachloride		92.8	72.6	133.0
Benzene		105.1	79.9	124.9
1,2-Dichloroethane		77.9	76.0	126.3
Trichloroethene		100.6	79.7	124.2
1,2-Dichloropropane		100.2	78.6	126.4
Bromodichloromethane		94.0	80.4	128.2
Dibromomethane		96.6	76.9	122.1
cis-1,3-Dichloropropene		103.3	79.8	129.9
Toluene		100.8	79.8	124.5
trans-1,3-Dichloropropene		99.1	74.0	131.3
1,1,2-Trichloroethane		99.0	78.7	123.1
Tetrachloroethene		100.4	74.5	124.5
trans-1,4-Dichloro-2-butene		88.3	68.6	135.4
Dibromochloromethane		104.3	74.6	127.2
1,2-Dibromoethane		104.0	70.3	133.7
Chlorobenzene		108.2	79.2	122.7
1,1,1,2-Tetrachloroethane		104.3	80.3	128.2
Ethylbenzene		108.0	79.5	129.1
p,m-Xylene		105.5	79.4	132.2
o-Xylene		104.2	80.2	131.0
Styrene		106.0	69.5	126.7
Isopropylbenzene		106.7	74.4	121.5
Bromoform		102.8	69.4	128.0
1,1,2,2-Tetrachloroethane		106.5	79.8	126.3
1,2,3-Trichloropropane		96.8	78.3	138.8
n-Propylbenzene		108.4	82.0	130.7
Bromobenzene		101.5	78.7	124.6
1,3,5-Trimethylbenzene		104.4	81.3	128.9
tert-Butylbenzene		96.3	80.7	128.9
1,2,4-Trimethylbenzene		103.2	81.4	130.8
sec-Butylbenzene		111.4	77.4	129.8
p-Isopropyltoluene		109.8	79.8	137.5
1,3-Dichlorobenzene		104.9	77.0	131.3
1,4-Dichlorobenzene		105.8	20.7	137.7
1,2-Dichlorobenzene		105.3	10.0	166.2
1,2,3-Trimethylbenzene		106.5	76.3	124.2
n-Butylbenzene		110.2	80.0	133.3
Hexachloroethane		117.0	23.8	138.1
1,2-Dibromo-3-chloropropane		104.0	21.2	189.4
1,2,4-Trichlorobenzene		105.8	27.4	143.4
1,2,3-Trichlorobenzene		103.3	75.4	131.4
Naphthalene		103.9	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230523W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230523A3.LCSW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 12:40, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		98.4	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230523A3.LCSDW23A, Parent Sample ID: 230523A3.LCSW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 13:04, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		108.8	67.4	121.2	1.7	30.0
Acetone		84.0	29.9	161.5	6.1	30.0
Methyl iodide		99.9	68.8	116.4	8.6	30.0
Carbon disulfide		105.4	63.8	137.4	10.0	30.0
tert-Methyl butyl ether (MTBE)		95.2	73.2	122.4	0.1	30.0
Acrylonitrile		97.7	69.9	128.9	2.2	30.0
2-Butanone (MEK)		91.6	44.0	134.4	4.6	30.0
Dichlorodifluoromethane		108.3	10.0	222.8	6.0	30.0
Chloromethane		120.7	23.8	166.5	6.4	30.0
Vinyl chloride		115.2	43.5	149.1	9.2	30.0
Bromomethane		96.0	56.8	151.3	9.6	30.0
Chloroethane		104.6	53.4	149.4	6.8	30.0
Trichlorofluoromethane		87.3	59.7	151.8	9.7	30.0
1,1-Dichloroethene		92.5	69.6	139.4	10.9	30.0
Methylene chloride		101.5	73.3	121.1	5.2	30.0
trans-1,2-Dichloroethene		92.9	73.6	129.3	8.4	30.0
1,1-Dichloroethane		96.8	71.5	126.2	6.7	30.0
cis-1,2-Dichloroethene		98.5	76.6	122.1	5.7	30.0
Tetrahydrofuran		80.4	59.0	117.9	3.1	30.0
Chloroform		91.4	78.4	124.0	6.4	30.0
Bromochloromethane		98.0	78.2	120.8	3.0	30.0
1,1,1-Trichloroethane		84.5	79.4	130.9	7.6	30.0
4-Methyl-2-pentanone (MIBK)		101.4	71.6	125.2	6.1	30.0
2-Hexanone		104.1	55.4	136.9	7.4	30.0
Carbon tetrachloride		86.7	72.6	133.0	6.8	30.0
Benzene		98.3	79.9	124.9	6.7	30.0
1,2-Dichloroethane	*	75.6	76.0	126.3	2.9	30.0
Trichloroethene		93.3	79.7	124.2	7.6	30.0
1,2-Dichloropropane		95.8	78.6	126.4	4.5	30.0
Bromodichloromethane		90.1	80.4	128.2	4.2	30.0
Dibromomethane		94.3	76.9	122.1	2.4	30.0
cis-1,3-Dichloropropene		100.2	79.8	129.9	3.1	30.0
Toluene		94.2	79.8	124.5	6.8	30.0
trans-1,3-Dichloropropene		96.8	74.0	131.3	2.3	30.0
1,1,2-Trichloroethane		99.1	78.7	123.1	0.1	30.0
Tetrachloroethene		92.6	74.5	124.5	8.1	30.0
trans-1,4-Dichloro-2-butene		90.2	68.6	135.4	2.1	30.0
Dibromochloromethane		102.4	74.6	127.2	1.9	30.0
1,2-Dibromoethane		104.8	70.3	133.7	0.8	30.0
Chlorobenzene		101.2	79.2	122.7	6.7	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230523W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230523A3.LCSDW23A, Parent Sample ID: 230523A3.LCSW23A

Run in Batch: 230523A3, Run Date: 05/23/2023 13:04, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		100.4	80.3	128.2	3.8	30.0
Ethylbenzene		99.9	79.5	129.1	7.8	30.0
p,m-Xylene		98.4	79.4	132.2	7.0	30.0
o-Xylene		97.9	80.2	131.0	6.2	30.0
Styrene		99.9	69.5	126.7	5.9	30.0
Isopropylbenzene		99.2	74.4	121.5	7.3	30.0
Bromoform		103.5	69.4	128.0	0.6	30.0
1,1,2,2-Tetrachloroethane		109.0	79.8	126.3	2.4	30.0
1,2,3-Trichloropropane		98.1	78.3	138.8	1.4	30.0
n-Propylbenzene		100.8	82.0	130.7	7.2	30.0
Bromobenzene		96.3	78.7	124.6	5.3	30.0
1,3,5-Trimethylbenzene		98.9	81.3	128.9	5.5	30.0
tert-Butylbenzene		90.6	80.7	128.9	6.1	30.0
1,2,4-Trimethylbenzene		97.7	81.4	130.8	5.5	30.0
sec-Butylbenzene		102.2	77.4	129.8	8.6	30.0
p-Isopropyltoluene		99.7	79.8	137.5	9.7	30.0
1,3-Dichlorobenzene		97.4	77.0	131.3	7.5	30.0
1,4-Dichlorobenzene		98.2	20.7	137.7	7.5	30.0
1,2-Dichlorobenzene		98.8	10.0	166.2	6.4	30.0
1,2,3-Trimethylbenzene		98.9	76.3	124.2	7.5	30.0
n-Butylbenzene		101.8	80.0	133.3	7.9	30.0
Hexachloroethane		107.0	23.8	138.1	8.9	30.0
1,2-Dibromo-3-chloropropane		109.0	21.2	189.4	4.7	30.0
1,2,4-Trichlorobenzene		105.2	27.4	143.4	0.5	30.0
1,2,3-Trichlorobenzene		104.1	75.4	131.4	0.8	30.0
Naphthalene		108.0	32.9	135.8	3.8	30.0
2-Methylnaphthalene		106.4	25.5	165.5	7.8	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS230523W1

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

Blank (BLK)

Lab Sample ID: 230523A9.BLKS23A

Run in Batch: 230523A9, Run Date: 05/23/2023 14:38, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.77	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230523A9.LCSS23A

Run in Batch: 230523A9, Run Date: 05/23/2023 13:15, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		104.4	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230523A9.LCSDS23A, Parent Sample ID: 230523A9.LCSS23A

Run in Batch: 230523A9, Run Date: 05/23/2023 13:36, Prep Date: 05/23/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		101.1	70.0	130.0	3.3	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS230524W1

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

Blank (BLK)

Lab Sample ID: 230524A9.BLKS24A

Run in Batch: 230524A9, Run Date: 05/24/2023 14:32, Prep Date: 05/24/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.28	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230524A9.LCSS24A

Run in Batch: 230524A9, Run Date: 05/24/2023 13:09, Prep Date: 05/24/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		105.0	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230524A9.LCSDS24A, Parent Sample ID: 230524A9.LCSS24A

Run in Batch: 230524A9, Run Date: 05/24/2023 13:30, Prep Date: 05/24/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		123.9	70.0	130.0	16.5	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS230525W1

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

Blank (BLK)

Lab Sample ID: 230525A9.BLKS25A

Run in Batch: 230525A9, Run Date: 05/25/2023 12:57, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.54	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230525A9.LCSS25A

Run in Batch: 230525A9, Run Date: 05/25/2023 10:53, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		116.1	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230525A9.LCSDS25A, Parent Sample ID: 230525A9.LCSS25A

Run in Batch: 230525A9, Run Date: 05/25/2023 11:14, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		115.3	70.0	130.0	0.7	30.0

Matrix Spike (MS)

Lab Sample ID: 230525A9.4882702M, Parent Sample ID: S48827.01

Run in Batch: 230525A9, Run Date: 05/25/2023 20:32, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		102.5	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 230525A9.4892802M, Parent Sample ID: S48928.01

Run in Batch: 230525A9, Run Date: 05/25/2023 11:34, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		103.6	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230525A9.4882703N, Parent Sample ID: 230525A9.4882702M

Run in Batch: 230525A9, Run Date: 05/25/2023 20:53, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		94.8	70.0	130.0	7.7	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230525A9.4892803N, Parent Sample ID: 230525A9.4892802M

Run in Batch: 230525A9, Run Date: 05/25/2023 11:55, Prep Date: 05/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		112.0	70.0	130.0	7.6	30.0

Merit Laboratories Login Checklist

Lab Set ID:S48713

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30171056.0470A / RACER Lansing

Submitted:05/17/2023 16:50 Login User: MMC

Attention: Kaitlyn Hunt

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 FAX:

Email: Kaitlyn.Hunt@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 3.1
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____



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

C.O.C. PAGE # 1 OF 1

152804

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Kaitlyn Hunt			
COMPANY Arcadis			
ADDRESS 28550 Cabot Drive, Suite 500			
CITY Novi		STATE MI	ZIP CODE 48377
PHONE NO. 947-777-5215		CELL NO. _____	P.O. NO. _____
E-MAIL ADDRESS Kaitlyn.Hunt@arcadis.com		QUOTE NO. _____	

CONTACT NAME		LAST NAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO		E-MAIL ADDRESS	

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

[illegible]

RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION	J. E. Arceadis	5/17/23	1600
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION	Johnnie Murray	5/17/23	1652
RELINQUISHED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			
RECEIVED BY:		DATE	TIME
SIGNATURE/ORGANIZATION			

RELINQUISHED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
RECEIVED BY:			DATE	TIME
SIGNATURE/ORGANIZATION				
SEAL NO	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP ON ARRIVAL <u>3.1</u>
SEAL NO	SEAL INTACT YES ☐ NO ☐	INITIALS		

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

Rev 1.26 22



Analytical Laboratory Report

Report ID: S52830.01(01)+QC01
Generated on 09/11/2023

Report to

Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 C:947-777-5215 FAX:
Email: Kaitlyn.Hunt@arcadis.com

Additional Contacts: Marina Samp, Tiffany Linder, Caitlin Cisco

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): S52830.01-S52830.07
Project: RACER Lansing GWS - 30171056.0470A Plant 2
Collected Date(s): 08/29/2023
Submitted Date/Time: 08/30/2023 16:05
Sampled by: Donald Richmond
P.O. #: 30171056.0470A

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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).
When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.
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, and 2-chloroethylvinyl ether 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.
Wisconsin PFAS analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

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/IEC 17025:2017	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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
N/A	Not Applicable
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S52830.01	MW-22-157_082923	Groundwater	08/29/23 11:10
S52830.02	MW-22-155_082923	Groundwater	08/29/23 12:20
S52830.03	MW-22-153_082923	Groundwater	08/29/23 13:45
S52830.04	MW-22-156_082923	Groundwater	08/29/23 14:30
S52830.05	MW-14-58R_082923	Groundwater	08/29/23 15:45
S52830.06	Trip Blank	Water	08/29/23 00:01
S52830.07	DUP-06_082923	Groundwater	08/29/23 00:01



Analytical Laboratory Report

Lab Sample ID: S52830.01

Sample Tag: MW-22-157_082923

Collected Date/Time: 08/29/2023 11:10

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	11.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/07/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/07/23 19:12, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	123	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/07/23 05:37, Analyst: NDK

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



Analytical Laboratory Report

Lab Sample ID: S52830.01 (continued)

Sample Tag: MW-22-157_082923

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/07/23 05:37, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S52830.02
Sample Tag: MW-22-155_082923
Collected Date/Time: 08/29/2023 12:20
Matrix: Groundwater
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	11.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/08/23 10:45	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/07/23 20:35, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	160	10		ug/L	10	123-91-1	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S52830.03

Sample Tag: MW-22-153_082923

Collected Date/Time: 08/29/2023 13:45

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	11.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/07/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/07/23 19:33, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	18	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/07/23 06:25, Analyst: NDK

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



Analytical Laboratory Report

Lab Sample ID: S52830.03 (continued)

Sample Tag: MW-22-153_082923

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/07/23 06:25, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S52830.04

Sample Tag: MW-22-156_082923

Collected Date/Time: 08/29/2023 14:30

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	11.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/07/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/07/23 19:53, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	144	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/07/23 08:22, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	20	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	300	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	Not detected	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S52830.04 (continued)

Sample Tag: MW-22-156_082923

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/07/23 08:22, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	Not detected	10		ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S52830.05

Sample Tag: MW-14-58R_082923

Collected Date/Time: 08/29/2023 15:45

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	11.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/07/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/08/23 16:53, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	250	10		ug/L	10	123-91-1	Y

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/07/23 06:48, Analyst: NDK

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

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S52830.05 (continued)

Sample Tag: MW-14-58R_082923

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/07/23 06:48, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S52830.06

Sample Tag: Trip Blank

Collected Date/Time: 08/29/2023 00:01

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	11.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/07/23 12:30	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/06/23 20:59, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S52830.06 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/06/23 20:59, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S52830.07

Sample Tag: DUP-06_082923

Collected Date/Time: 08/29/2023 00:01

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	11.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	09/07/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 09/08/23 05:39, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	117	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/07/23 07:12, Analyst: NDK

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



Analytical Laboratory Report

Lab Sample ID: S52830.07 (continued)

Sample Tag: DUP-06_082923

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/07/23 07:12, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Quality Control Report

Report ID: S52830.01(01)+QC01
Generated on 09/11/2023

Report to

Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Report Produced by

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East Lansing, MI 48823

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Report Summary

Lab Sample ID(s): S52830.01-S52830.07
Project: RACER Lansing GWS - 30171056.0470A Plant 2
Submitted Date/Time: 08/30/2023 16:05
Sampled by: Donald Richmond
P.O. #: 30171056.0470A

QC Report Sections

Cover Page (Page 19)
Analysis Summary (Pages 20-26)
Prep Batch Summary (Page 27)
Surrogates per Lab Sample (Pages 28-34)
Surrogates per QC Sample (Pages 35-39)
Internal Standards per Lab Sample (Pages 40-46)
Internal Standards per QC Sample (Pages 47-51)
Batch QC Results (Pages 52-67)

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: S52830.01

Sample Tag: MW-22-157_082923

Collected Date/Time: 08/29/2023 11:10

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	09/07/23 19:12	230907A9	VS230907W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	09/07/23 05:37	230906B7	VF230906W3	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S52830.02

Sample Tag: MW-22-155_082923

Collected Date/Time: 08/29/2023 12:20

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	09/07/23 20:35	230907A9	VS230907W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S52830.03

Sample Tag: MW-22-153_082923

Collected Date/Time: 08/29/2023 13:45

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	09/07/23 19:33	230907A9	VS230907W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	09/07/23 06:25	230906B7	VF230906W3	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S52830.04

Sample Tag: MW-22-156_082923

Collected Date/Time: 08/29/2023 14:30

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	09/07/23 19:53	230907A9	VS230907W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	09/07/23 08:22	230906B7	VF230906W3	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S52830.05

Sample Tag: MW-14-58R_082923

Collected Date/Time: 08/29/2023 15:45

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	09/08/23 16:53	230908A9	VS230908W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	09/07/23 06:48	230906B7	VF230906W3	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S52830.06

Sample Tag: Trip Blank

Collected Date/Time: 08/29/2023 00:01

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	09/06/23 20:59	230906A7	VF230906W1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S52830.07

Sample Tag: DUP-06_082923

Collected Date/Time: 08/29/2023 00:01

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	09/08/23 05:39	230907B9	VS230907W3	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	09/07/23 07:12	230906B7	VF230906W3	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF230906W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S52830.06	Volatile Organics - DEQ List	SW5030C/8260C	09/06/23 20:59	230906A7

Organics - Volatiles, Prep Batch ID: VF230906W3

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S52830.01	Volatile Organics - DEQ List	SW5030C/8260C	09/07/23 05:37	230906B7
S52830.03	Volatile Organics - DEQ List	SW5030C/8260C	09/07/23 06:25	230906B7
S52830.04	Volatile Organics - DEQ List	SW5030C/8260C	09/07/23 08:22	230906B7
S52830.05	Volatile Organics - DEQ List	SW5030C/8260C	09/07/23 06:48	230906B7
S52830.07	Volatile Organics - DEQ List	SW5030C/8260C	09/07/23 07:12	230906B7

Organics - Volatiles, Prep Batch ID: VS230907W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S52830.01	1,4-Dioxane	SW8260B - SIM	09/07/23 19:12	230907A9
S52830.02	1,4-Dioxane	SW8260B - SIM	09/07/23 20:35	230907A9
S52830.03	1,4-Dioxane	SW8260B - SIM	09/07/23 19:33	230907A9
S52830.04	1,4-Dioxane	SW8260B - SIM	09/07/23 19:53	230907A9

Organics - Volatiles, Prep Batch ID: VS230907W3

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S52830.07	1,4-Dioxane	SW8260B - SIM	09/08/23 05:39	230907B9

Organics - Volatiles, Prep Batch ID: VS230908W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S52830.05	1,4-Dioxane	SW8260B - SIM	09/08/23 16:53	230908A9

QC Report - Surrogates per Lab Sample

Lab Sample ID: S52830.01

Sample Tag: MW-22-157_082923

Collected Date/Time: 08/29/2023 11:10

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230907A9, Run Date: 09/07/2023 19:12, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
BROMOFORM-D		97.5	60.0	140.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906B7, Run Date: 09/07/2023 05:37, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		107.8	80.0	124.0
1,2-Dichloroethane-D4		83.7	72.0	125.0
Toluene-D8		94.3	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S52830.02

Sample Tag: MW-22-155_082923

Collected Date/Time: 08/29/2023 12:20

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230907A9, Run Date: 09/07/2023 20:35, Matrix: WW, Dilution: 10

Surrogate	Flags	%Rec	LCL	UCL
BROMOFORM-D		97.5	60.0	140.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S52830.03

Sample Tag: MW-22-153_082923

Collected Date/Time: 08/29/2023 13:45

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230907A9, Run Date: 09/07/2023 19:33, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
BROMOFORM-D		97.5	60.0	140.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906B7, Run Date: 09/07/2023 06:25, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		110.4	80.0	124.0
1,2-Dichloroethane-D4		92.7	72.0	125.0
Toluene-D8		94.4	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S52830.04

Sample Tag: MW-22-156_082923

Collected Date/Time: 08/29/2023 14:30

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230907A9, Run Date: 09/07/2023 19:53, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
BROMOFORM-D		100.0	60.0	140.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906B7, Run Date: 09/07/2023 08:22, Matrix: WW, Dilution: 10

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		110.1	80.0	124.0
1,2-Dichloroethane-D4		93.0	72.0	125.0
Toluene-D8		94.4	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S52830.05

Sample Tag: MW-14-58R_082923

Collected Date/Time: 08/29/2023 15:45

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906B7, Run Date: 09/07/2023 06:48, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		110.4	80.0	124.0
1,2-Dichloroethane-D4		87.0	72.0	125.0
Toluene-D8		94.7	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S52830.06

Sample Tag: Trip Blank

Collected Date/Time: 08/29/2023 00:01

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906A7, Run Date: 09/06/2023 20:59, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		106.5	80.0	124.0
1,2-Dichloroethane-D4		90.0	72.0	125.0
Toluene-D8		93.6	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S52830.07

Sample Tag: DUP-06_082923

Collected Date/Time: 08/29/2023 00:01

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906B7, Run Date: 09/07/2023 07:12, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		110.3	80.0	124.0
1,2-Dichloroethane-D4		85.8	72.0	125.0
Toluene-D8		94.1	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230906W1

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

Blank (BLK)

Lab Sample ID: 230906A7.BLKW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 13:57, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		106.8	80.0	124.0
1,2-Dichloroethane-D4		90.9	72.0	125.0
Toluene-D8		95.1	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230906A7.LCSW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 11:37, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		111.0	80.0	124.0
1,2-Dichloroethane-D4		88.5	72.0	125.0
Toluene-D8		93.9	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230906A7.LCSDW06A, Parent Sample ID: 230906A7.LCSW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 12:00, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		111.0	80.0	124.0
1,2-Dichloroethane-D4		85.5	72.0	125.0
Toluene-D8		93.7	89.0	112.0

Matrix Spike (MS)

Lab Sample ID: 230906A7.5280304M, Parent Sample ID: S52803.03

Run in Batch: 230906A7, Run Date: 09/06/2023 12:24, Prep Date: 09/06/2023, Matrix: WW, Dilution: 10

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		111.9	80.0	124.0
1,2-Dichloroethane-D4		86.5	72.0	125.0
Toluene-D8		94.2	89.0	112.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230906A7.5280305N, Parent Sample ID: 230906A7.5280304M

Run in Batch: 230906A7, Run Date: 09/06/2023 12:47, Prep Date: 09/06/2023, Matrix: WW, Dilution: 10

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		112.2	80.0	124.0
1,2-Dichloroethane-D4		95.3	72.0	125.0
Toluene-D8		94.4	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230906W3

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230906B7.BLKW06B

Run in Batch: 230906B7, Run Date: 09/07/2023 00:54, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		107.8	80.0	124.0
1,2-Dichloroethane-D4		83.9	72.0	125.0
Toluene-D8		93.5	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230906B7.LCSW06B

Run in Batch: 230906B7, Run Date: 09/06/2023 23:20, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		115.3	80.0	124.0
1,2-Dichloroethane-D4		88.5	72.0	125.0
Toluene-D8		94.8	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230906B7.LCSDW06B, Parent Sample ID: 230906B7.LCSW06B

Run in Batch: 230906B7, Run Date: 09/06/2023 23:44, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		115.2	80.0	124.0
1,2-Dichloroethane-D4		90.7	72.0	125.0
Toluene-D8		93.9	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS230907W1

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

Blank (BLK)

Lab Sample ID: 230907A9.BLKS07A

Run in Batch: 230907A9, Run Date: 09/07/2023 15:01, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
BROMOFORM-D		95.0	60.0	140.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230907A9.LCSS07A

Run in Batch: 230907A9, Run Date: 09/07/2023 12:44, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
BROMOFORM-D		97.5	60.0	140.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230907A9.LCSDS07X, Parent Sample ID: 230907A9.LCSS07A

Run in Batch: 230907A9, Run Date: 09/07/2023 13:52, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
BROMOFORM-D		97.5	60.0	140.0

Matrix Spike (MS)

Lab Sample ID: 230907A9.5282705M, Parent Sample ID: S52827.04

Run in Batch: 230907A9, Run Date: 09/07/2023 20:56, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
BROMOFORM-D		97.5	60.0	140.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230907A9.5282706N, Parent Sample ID: 230907A9.5282705M

Run in Batch: 230907A9, Run Date: 09/07/2023 21:17, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
BROMOFORM-D		97.5	60.0	140.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS230907W3

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

Blank (BLK)

Lab Sample ID: 230907B9.BLKW07B

Run in Batch: 230907B9, Run Date: 09/08/2023 04:15, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 230907B9.LCSW07B

Run in Batch: 230907B9, Run Date: 09/08/2023 01:06, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230907B9.LCSDW07B, Parent Sample ID: 230907B9.LCSW07B

Run in Batch: 230907B9, Run Date: 09/08/2023 01:27, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Matrix Spike (MS)

Lab Sample ID: 230907B9.5283102M, Parent Sample ID: S52831.01

Run in Batch: 230907B9, Run Date: 09/08/2023 02:51, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230907B9.5283103N, Parent Sample ID: 230907B9.5283102M

Run in Batch: 230907B9, Run Date: 09/08/2023 03:12, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS230908W1

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

Blank (BLK)

Lab Sample ID: 230908A9.BLKW08A

Run in Batch: 230908A9, Run Date: 09/08/2023 15:51, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 230908A9.LCSW08A

Run in Batch: 230908A9, Run Date: 09/08/2023 14:28, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230908A9.LCSDW08A, Parent Sample ID: 230908A9.LCSW08A

Run in Batch: 230908A9, Run Date: 09/08/2023 14:49, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Matrix Spike (MS)

Lab Sample ID: 230908A9.5283102M, Parent Sample ID: S52831.01

Run in Batch: 230908A9, Run Date: 09/08/2023 18:35, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230908A9.5283103N, Parent Sample ID: 230908A9.5283102M

Run in Batch: 230908A9, Run Date: 09/08/2023 18:55, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S52830.01

Sample Tag: MW-22-157_082923

Collected Date/Time: 08/29/2023 11:10

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230907A9, Run Date: 09/07/2023 19:12, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,2-DIBROMOETHANE-D4 (I)		102.2	50.0	200.0
1,4-Dioxane-D8		97.0	50.0	200.0
1,2-DIBROMO-3-CHLOROPROPANE-C3 (I)		94.6	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906B7, Run Date: 09/07/2023 05:37, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		94.6	50.0	200.0
1,4-Difluorobenzene		92.2	50.0	200.0
Chlorobenzene-D5		88.7	50.0	200.0
1,4-Dichlorobenzene-D4		84.2	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S52830.02

Sample Tag: MW-22-155_082923

Collected Date/Time: 08/29/2023 12:20

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230907A9, Run Date: 09/07/2023 20:35, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
1,2-DIBROMOETHANE-D4 (I)		101.9	50.0	200.0
1,4-Dioxane-D8		86.4	50.0	200.0
1,2-DIBROMO-3-CHLOROPROPANE-C3 (I)		91.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S52830.03

Sample Tag: MW-22-153_082923

Collected Date/Time: 08/29/2023 13:45

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230907A9, Run Date: 09/07/2023 19:33, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,2-DIBROMOETHANE-D4 (I)		103.9	50.0	200.0
1,4-Dioxane-D8		99.0	50.0	200.0
1,2-DIBROMO-3-CHLOROPROPANE-C3 (I)		95.5	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906B7, Run Date: 09/07/2023 06:25, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		99.5	50.0	200.0
1,4-Difluorobenzene		101.3	50.0	200.0
Chlorobenzene-D5		100.5	50.0	200.0
1,4-Dichlorobenzene-D4		97.1	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S52830.04

Sample Tag: MW-22-156_082923

Collected Date/Time: 08/29/2023 14:30

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230907A9, Run Date: 09/07/2023 19:53, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,2-DIBROMOETHANE-D4 (I)		101.4	50.0	200.0
1,4-Dioxane-D8		88.3	50.0	200.0
1,2-DIBROMO-3-CHLOROPROPANE-C3 (I)		95.7	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906B7, Run Date: 09/07/2023 08:22, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		100.2	50.0	200.0
1,4-Difluorobenzene		101.1	50.0	200.0
Chlorobenzene-D5		100.9	50.0	200.0
1,4-Dichlorobenzene-D4		98.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S52830.05

Sample Tag: MW-14-58R_082923

Collected Date/Time: 08/29/2023 15:45

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230908A9, Run Date: 09/08/2023 16:53, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		91.3	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906B7, Run Date: 09/07/2023 06:48, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		92.2	50.0	200.0
1,4-Difluorobenzene		91.5	50.0	200.0
Chlorobenzene-D5		88.6	50.0	200.0
1,4-Dichlorobenzene-D4		86.3	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S52830.06

Sample Tag: Trip Blank

Collected Date/Time: 08/29/2023 00:01

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906A7, Run Date: 09/06/2023 20:59, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		96.1	50.0	200.0
1,4-Difluorobenzene		96.6	50.0	200.0
Chlorobenzene-D5		96.7	50.0	200.0
1,4-Dichlorobenzene-D4		90.1	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S52830.07

Sample Tag: DUP-06_082923

Collected Date/Time: 08/29/2023 00:01

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 230907B9, Run Date: 09/08/2023 05:39, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		106.3	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230906B7, Run Date: 09/07/2023 07:12, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		94.7	50.0	200.0
1,4-Difluorobenzene		92.6	50.0	200.0
Chlorobenzene-D5		89.5	50.0	200.0
1,4-Dichlorobenzene-D4		86.2	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF230906W1

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

Blank (BLK)

Lab Sample ID: 230906A7.BLKW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 13:57, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		96.5	50.0	200.0
1,4-Difluorobenzene		97.2	50.0	200.0
Chlorobenzene-D5		99.1	50.0	200.0
1,4-Dichlorobenzene-D4		93.8	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230906A7.LCSW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 11:37, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		103.2	50.0	200.0
1,4-Difluorobenzene		102.9	50.0	200.0
Chlorobenzene-D5		103.2	50.0	200.0
1,4-Dichlorobenzene-D4		101.5	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230906A7.LCSDW06A, Parent Sample ID: 230906A7.LCSW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 12:00, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		99.7	50.0	200.0
1,4-Difluorobenzene		98.7	50.0	200.0
Chlorobenzene-D5		97.9	50.0	200.0
1,4-Dichlorobenzene-D4		95.4	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 230906A7.5280304M, Parent Sample ID: S52803.03

Run in Batch: 230906A7, Run Date: 09/06/2023 12:24, Prep Date: 09/06/2023, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		99.6	50.0	200.0
1,4-Difluorobenzene		98.9	50.0	200.0
Chlorobenzene-D5		98.4	50.0	200.0
1,4-Dichlorobenzene-D4		95.9	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230906A7.5280305N, Parent Sample ID: 230906A7.5280304M

Run in Batch: 230906A7, Run Date: 09/06/2023 12:47, Prep Date: 09/06/2023, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		107.4	50.0	200.0
1,4-Difluorobenzene		110.3	50.0	200.0
Chlorobenzene-D5		114.8	50.0	200.0
1,4-Dichlorobenzene-D4		113.8	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF230906W3

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230906B7.BLKW06B

Run in Batch: 230906B7, Run Date: 09/07/2023 00:54, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		96.4	50.0	200.0
1,4-Difluorobenzene		93.8	50.0	200.0
Chlorobenzene-D5		89.8	50.0	200.0
1,4-Dichlorobenzene-D4		85.6	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230906B7.LCSW06B

Run in Batch: 230906B7, Run Date: 09/06/2023 23:20, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		103.5	50.0	200.0
1,4-Difluorobenzene		102.3	50.0	200.0
Chlorobenzene-D5		100.1	50.0	200.0
1,4-Dichlorobenzene-D4		101.1	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230906B7.LCSDW06B, Parent Sample ID: 230906B7.LCSW06B

Run in Batch: 230906B7, Run Date: 09/06/2023 23:44, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		105.1	50.0	200.0
1,4-Difluorobenzene		104.9	50.0	200.0
Chlorobenzene-D5		103.0	50.0	200.0
1,4-Dichlorobenzene-D4		103.3	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS230907W1

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

Blank (BLK)

Lab Sample ID: 230907A9.BLKS07A

Run in Batch: 230907A9, Run Date: 09/07/2023 15:01, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,2-DIBROMOETHANE-D4 (I)		99.8	50.0	200.0
1,4-Dioxane-D8		104.7	50.0	200.0
1,2-DIBROMO-3-CHLOROPROPANE-C3 (I)		94.8	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230907A9.LCSS07A

Run in Batch: 230907A9, Run Date: 09/07/2023 12:44, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,2-DIBROMOETHANE-D4 (I)		100.0	50.0	200.0
1,4-Dioxane-D8		100.0	50.0	200.0
1,2-DIBROMO-3-CHLOROPROPANE-C3 (I)		100.0	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230907A9.LCSDS07X, Parent Sample ID: 230907A9.LCSS07A

Run in Batch: 230907A9, Run Date: 09/07/2023 13:52, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,2-DIBROMOETHANE-D4 (I)		87.9	50.0	200.0
1,4-Dioxane-D8		95.3	50.0	200.0
1,2-DIBROMO-3-CHLOROPROPANE-C3 (I)		91.3	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 230907A9.5282705M, Parent Sample ID: S52827.04

Run in Batch: 230907A9, Run Date: 09/07/2023 20:56, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,2-DIBROMOETHANE-D4 (I)		102.4	50.0	200.0
1,4-Dioxane-D8		96.8	50.0	200.0
1,2-DIBROMO-3-CHLOROPROPANE-C3 (I)		93.8	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230907A9.5282706N, Parent Sample ID: 230907A9.5282705M

Run in Batch: 230907A9, Run Date: 09/07/2023 21:17, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,2-DIBROMOETHANE-D4 (I)		102.5	50.0	200.0
1,4-Dioxane-D8		93.2	50.0	200.0
1,2-DIBROMO-3-CHLOROPROPANE-C3 (I)		92.4	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS230907W3

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

Blank (BLK)

Lab Sample ID: 230907B9.BLKW07B

Run in Batch: 230907B9, Run Date: 09/08/2023 04:15, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		101.3	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230907B9.LCSW07B

Run in Batch: 230907B9, Run Date: 09/08/2023 01:06, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		96.4	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230907B9.LCSDW07B, Parent Sample ID: 230907B9.LCSW07B

Run in Batch: 230907B9, Run Date: 09/08/2023 01:27, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		87.8	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 230907B9.5283102M, Parent Sample ID: S52831.01

Run in Batch: 230907B9, Run Date: 09/08/2023 02:51, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		99.3	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230907B9.5283103N, Parent Sample ID: 230907B9.5283102M

Run in Batch: 230907B9, Run Date: 09/08/2023 03:12, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		102.2	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS230908W1

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

Blank (BLK)

Lab Sample ID: 230908A9.BLKW08A

Run in Batch: 230908A9, Run Date: 09/08/2023 15:51, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		94.3	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230908A9.LCSW08A

Run in Batch: 230908A9, Run Date: 09/08/2023 14:28, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		90.6	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230908A9.LCSDW08A, Parent Sample ID: 230908A9.LCSW08A

Run in Batch: 230908A9, Run Date: 09/08/2023 14:49, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		101.3	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 230908A9.5283102M, Parent Sample ID: S52831.01

Run in Batch: 230908A9, Run Date: 09/08/2023 18:35, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		87.2	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230908A9.5283103N, Parent Sample ID: 230908A9.5283102M

Run in Batch: 230908A9, Run Date: 09/08/2023 18:55, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		79.4	50.0	200.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230906W1

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

Blank (BLK)

Lab Sample ID: 230906A7.BLKW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 13:57, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

Organics - Volatiles, Prep Batch ID: VF230906W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230906A7.BLKW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 13:57, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230906A7.LCSW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 11:37, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		115.4	67.4	121.2
Acetone		124.2	29.9	161.5
Methyl iodide		115.3	68.8	116.4
Carbon disulfide		108.0	63.8	137.4
tert-Methyl butyl ether (MTBE)		109.0	73.2	122.4
Acrylonitrile		109.6	69.9	128.9
2-Butanone (MEK)		100.9	44.0	134.4
Dichlorodifluoromethane		82.2	10.0	222.8
Chloromethane		92.8	23.8	166.5
Vinyl chloride		94.8	43.5	149.1
Bromomethane		92.9	56.8	151.3
Chloroethane		92.1	53.4	149.4
Trichlorofluoromethane		84.2	59.7	151.8
1,1-Dichloroethene		98.1	69.6	139.4
Methylene chloride		108.3	73.3	121.1
trans-1,2-Dichloroethene		98.7	73.6	129.3
1,1-Dichloroethane		102.4	71.5	126.2
cis-1,2-Dichloroethene		106.6	76.6	122.1
Tetrahydrofuran		95.7	59.0	117.9
Chloroform		100.4	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230906W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230906A7.LCSW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 11:37, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		110.5	78.2	120.8
1,1,1-Trichloroethane		98.6	79.4	130.9
4-Methyl-2-pentanone (MIBK)		100.5	71.6	125.2
2-Hexanone		102.2	55.4	136.9
Carbon tetrachloride		96.3	72.6	133.0
Benzene		98.4	79.9	124.9
1,2-Dichloroethane		86.3	76.0	126.3
Trichloroethene		97.4	79.7	124.2
1,2-Dichloropropane		99.7	78.6	126.4
Bromodichloromethane		101.4	80.4	128.2
Dibromomethane		111.8	76.9	122.1
cis-1,3-Dichloropropene		105.1	79.8	129.9
Toluene		95.7	79.8	124.5
trans-1,3-Dichloropropene		104.7	74.0	131.3
1,1,2-Trichloroethane		99.3	78.7	123.1
Tetrachloroethene		97.7	74.5	124.5
trans-1,4-Dichloro-2-butene		98.8	68.6	135.4
Dibromochloromethane		114.4	74.6	127.2
1,2-Dibromoethane		107.4	70.3	133.7
Chlorobenzene		103.7	79.2	122.7
1,1,1,2-Tetrachloroethane		111.0	80.3	128.2
Ethylbenzene		101.2	79.5	129.1
p,m-Xylene		102.0	79.4	132.2
o-Xylene		100.9	80.2	131.0
Styrene		105.0	69.5	126.7
Isopropylbenzene		100.9	74.4	121.5
Bromoform		118.7	69.4	128.0
1,1,2,2-Tetrachloroethane		105.5	79.8	126.3
1,2,3-Trichloropropane		105.4	78.3	138.8
n-Propylbenzene		101.4	82.0	130.7
Bromobenzene		109.4	78.7	124.6
1,3,5-Trimethylbenzene		105.2	81.3	128.9
tert-Butylbenzene		97.2	80.7	128.9
1,2,4-Trimethylbenzene		104.1	81.4	130.8
sec-Butylbenzene		96.5	77.4	129.8
p-Isopropyltoluene		96.5	79.8	137.5
1,3-Dichlorobenzene		99.9	77.0	131.3
1,4-Dichlorobenzene		101.1	20.7	137.7
1,2-Dichlorobenzene		101.3	10.0	166.2
1,2,3-Trimethylbenzene		97.0	76.3	124.2
n-Butylbenzene		96.4	80.0	133.3
Hexachloroethane		111.2	23.8	138.1
1,2-Dibromo-3-chloropropane		115.2	21.2	189.4
1,2,4-Trichlorobenzene		110.2	27.4	143.4
1,2,3-Trichlorobenzene		111.7	75.4	131.4
Naphthalene		105.2	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230906W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230906A7.LCSW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 11:37, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		99.6	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230906A7.LCSDW06A, Parent Sample ID: 230906A7.LCSW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 12:00, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		119.2	67.4	121.2	3.3	30.0
Acetone		134.9	29.9	161.5	8.3	30.0
Methyl iodide		115.1	68.8	116.4	0.2	30.0
Carbon disulfide		104.5	63.8	137.4	3.4	30.0
tert-Methyl butyl ether (MTBE)		113.6	73.2	122.4	4.2	30.0
Acrylonitrile		113.4	69.9	128.9	3.4	30.0
2-Butanone (MEK)		108.7	44.0	134.4	7.5	30.0
Dichlorodifluoromethane		82.1	10.0	222.8	0.1	30.0
Chloromethane		92.2	23.8	166.5	0.6	30.0
Vinyl chloride		92.5	43.5	149.1	2.5	30.0
Bromomethane		89.6	56.8	151.3	3.6	30.0
Chloroethane		91.4	53.4	149.4	0.8	30.0
Trichlorofluoromethane		83.7	59.7	151.8	0.6	30.0
1,1-Dichloroethene		96.1	69.6	139.4	2.1	30.0
Methylene chloride		108.2	73.3	121.1	0.1	30.0
trans-1,2-Dichloroethene		96.1	73.6	129.3	2.6	30.0
1,1-Dichloroethane		99.3	71.5	126.2	3.1	30.0
cis-1,2-Dichloroethene		104.0	76.6	122.1	2.5	30.0
Tetrahydrofuran		105.5	59.0	117.9	9.7	30.0
Chloroform		98.6	78.4	124.0	1.9	30.0
Bromochloromethane		112.0	78.2	120.8	1.3	30.0
1,1,1-Trichloroethane		95.8	79.4	130.9	2.9	30.0
4-Methyl-2-pentanone (MIBK)		109.0	71.6	125.2	8.2	30.0
2-Hexanone		109.9	55.4	136.9	7.3	30.0
Carbon tetrachloride		94.6	72.6	133.0	1.8	30.0
Benzene		98.2	79.9	124.9	0.2	30.0
1,2-Dichloroethane		88.7	76.0	126.3	2.8	30.0
Trichloroethene		95.8	79.7	124.2	1.7	30.0
1,2-Dichloropropane		100.7	78.6	126.4	1.0	30.0
Bromodichloromethane		100.7	80.4	128.2	0.7	30.0
Dibromomethane		114.5	76.9	122.1	2.4	30.0
cis-1,3-Dichloropropene		106.2	79.8	129.9	1.1	30.0
Toluene		95.8	79.8	124.5	0.0	30.0
trans-1,3-Dichloropropene		108.6	74.0	131.3	3.7	30.0
1,1,2-Trichloroethane		103.6	78.7	123.1	4.3	30.0
Tetrachloroethene		97.0	74.5	124.5	0.7	30.0
trans-1,4-Dichloro-2-butene		106.7	68.6	135.4	7.6	30.0
Dibromochloromethane		119.1	74.6	127.2	4.0	30.0
1,2-Dibromoethane		112.5	70.3	133.7	4.6	30.0
Chlorobenzene		104.6	79.2	122.7	0.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230906W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230906A7.LCSDW06A, Parent Sample ID: 230906A7.LCSW06A

Run in Batch: 230906A7, Run Date: 09/06/2023 12:00, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		112.7	80.3	128.2	1.5	30.0
Ethylbenzene		101.9	79.5	129.1	0.7	30.0
p,m-Xylene		102.3	79.4	132.2	0.4	30.0
o-Xylene		101.2	80.2	131.0	0.3	30.0
Styrene		106.4	69.5	126.7	1.3	30.0
Isopropylbenzene		101.0	74.4	121.5	0.2	30.0
Bromoform		126.1	69.4	128.0	6.0	30.0
1,1,2,2-Tetrachloroethane		113.5	79.8	126.3	7.3	30.0
1,2,3-Trichloropropane		111.2	78.3	138.8	5.4	30.0
n-Propylbenzene		101.0	82.0	130.7	0.4	30.0
Bromobenzene		113.0	78.7	124.6	3.3	30.0
1,3,5-Trimethylbenzene		104.5	81.3	128.9	0.7	30.0
tert-Butylbenzene		97.1	80.7	128.9	0.0	30.0
1,2,4-Trimethylbenzene		103.7	81.4	130.8	0.3	30.0
sec-Butylbenzene		97.6	77.4	129.8	1.1	30.0
p-Isopropyltoluene		97.0	79.8	137.5	0.5	30.0
1,3-Dichlorobenzene		102.7	77.0	131.3	2.7	30.0
1,4-Dichlorobenzene		103.6	20.7	137.7	2.5	30.0
1,2-Dichlorobenzene		106.3	10.0	166.2	4.7	30.0
1,2,3-Trimethylbenzene		98.8	76.3	124.2	1.8	30.0
n-Butylbenzene		96.9	80.0	133.3	0.5	30.0
Hexachloroethane		110.0	23.8	138.1	1.0	30.0
1,2-Dibromo-3-chloropropane		126.8	21.2	189.4	9.6	30.0
1,2,4-Trichlorobenzene		117.1	27.4	143.4	6.0	30.0
1,2,3-Trichlorobenzene		121.2	75.4	131.4	8.1	30.0
Naphthalene		117.1	32.9	135.8	10.8	30.0
2-Methylnaphthalene		119.1	25.5	165.5	17.8	30.0

Matrix Spike (MS)

Lab Sample ID: 230906A7.5280304M, Parent Sample ID: S52803.03

Run in Batch: 230906A7, Run Date: 09/06/2023 12:24, Prep Date: 09/06/2023, Matrix: WW, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		112.7	67.4	121.2
Acetone		94.9	29.9	161.5
Methyl iodide		116.4	68.8	116.4
Carbon disulfide		111.9	63.8	137.4
tert-Methyl butyl ether (MTBE)		108.7	73.2	122.4
Acrylonitrile		107.4	69.9	128.9
2-Butanone (MEK)		96.6	44.0	134.4
Dichlorodifluoromethane		93.1	10.0	222.8
Chloromethane		97.8	23.8	166.5
Vinyl chloride		102.2	43.5	149.1
Bromomethane		94.8	56.8	151.3
Chloroethane		94.5	53.4	149.4
Trichlorofluoromethane		93.1	59.7	151.8
1,1-Dichloroethene		101.0	69.6	139.4

Organics - Volatiles, Prep Batch ID: VF230906W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230906A7.5280304M, Parent Sample ID: S52803.03

Run in Batch: 230906A7, Run Date: 09/06/2023 12:24, Prep Date: 09/06/2023, Matrix: WW, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Methylene chloride		106.5	73.3	121.1
trans-1,2-Dichloroethene		100.1	73.6	129.3
1,1-Dichloroethane		102.8	71.5	126.2
cis-1,2-Dichloroethene		105.5	76.6	122.1
Tetrahydrofuran		92.5	59.0	117.9
Chloroform		100.3	78.4	124.0
Bromochloromethane		110.7	78.2	120.8
1,1,1-Trichloroethane		100.6	79.4	130.9
4-Methyl-2-pentanone (MIBK)		98.1	71.6	125.2
2-Hexanone		96.8	55.4	136.9
Carbon tetrachloride		101.4	72.6	133.0
Benzene		99.2	79.9	124.9
1,2-Dichloroethane		86.3	76.0	126.3
Trichloroethene		99.4	79.7	124.2
1,2-Dichloropropane		100.4	78.6	126.4
Bromodichloromethane		100.7	80.4	128.2
Dibromomethane		111.8	76.9	122.1
cis-1,3-Dichloropropene		104.8	79.8	129.9
Toluene		96.8	79.8	124.5
trans-1,3-Dichloropropene		106.4	74.0	131.3
1,1,2-Trichloroethane		97.8	78.7	123.1
Tetrachloroethene		107.1	74.5	124.5
trans-1,4-Dichloro-2-butene		98.2	68.6	135.4
Dibromochloromethane		76.4	74.6	127.2
1,2-Dibromoethane		107.5	70.3	133.7
Chlorobenzene		104.9	79.2	122.7
1,1,1,2-Tetrachloroethane		112.1	80.3	128.2
Ethylbenzene		103.5	79.5	129.1
p,m-Xylene		103.8	79.4	132.2
o-Xylene		102.6	80.2	131.0
Styrene		105.6	69.5	126.7
Isopropylbenzene		104.0	74.4	121.5
Bromoform		118.8	69.4	128.0
1,1,2,2-Tetrachloroethane		103.4	79.8	126.3
1,2,3-Trichloropropane		102.9	78.3	138.8
n-Propylbenzene		105.3	82.0	130.7
Bromobenzene		112.1	78.7	124.6
1,3,5-Trimethylbenzene		106.4	81.3	128.9
tert-Butylbenzene		99.6	80.7	128.9
1,2,4-Trimethylbenzene		105.9	81.4	130.8
sec-Butylbenzene		100.8	77.4	129.8
p-Isopropyltoluene		100.2	79.8	137.5
1,3-Dichlorobenzene		102.2	77.0	131.3
1,4-Dichlorobenzene		102.8	20.7	137.7
1,2-Dichlorobenzene		103.7	10.0	166.2
1,2,3-Trimethylbenzene		100.2	76.3	124.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230906W1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 230906A7.5280304M, Parent Sample ID: S52803.03

Run in Batch: 230906A7, Run Date: 09/06/2023 12:24, Prep Date: 09/06/2023, Matrix: WW, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
n-Butylbenzene		101.1	80.0	133.3
Hexachloroethane		113.7	23.8	138.1
1,2-Dibromo-3-chloropropane		113.1	21.2	189.4
1,2,4-Trichlorobenzene		114.2	27.4	143.4
1,2,3-Trichlorobenzene		113.0	75.4	131.4
Naphthalene		104.7	32.9	135.8
2-Methylnaphthalene		104.2	25.5	165.5

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230906A7.5280305N, Parent Sample ID: 230906A7.5280304M

Run in Batch: 230906A7, Run Date: 09/06/2023 12:47, Prep Date: 09/06/2023, Matrix: WW, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		120.7	67.4	121.2	6.9	30.0
Acetone		96.9	29.9	161.5	1.9	30.0
Methyl iodide		114.2	68.8	116.4	1.9	30.0
Carbon disulfide		102.7	63.8	137.4	8.6	30.0
tert-Methyl butyl ether (MTBE)		115.5	73.2	122.4	6.1	30.0
Acrylonitrile		105.9	69.9	128.9	1.4	30.0
2-Butanone (MEK)		99.7	44.0	134.4	3.1	30.0
Dichlorodifluoromethane		84.9	10.0	222.8	9.2	30.0
Chloromethane		92.5	23.8	166.5	5.6	30.0
Vinyl chloride		94.4	43.5	149.1	8.0	30.0
Bromomethane		93.7	56.8	151.3	1.2	30.0
Chloroethane		93.0	53.4	149.4	1.6	30.0
Trichlorofluoromethane		84.6	59.7	151.8	9.6	30.0
1,1-Dichloroethene		94.5	69.6	139.4	6.6	30.0
Methylene chloride		109.6	73.3	121.1	2.9	30.0
trans-1,2-Dichloroethene		95.2	73.6	129.3	5.0	30.0
1,1-Dichloroethane		101.1	71.5	126.2	1.7	30.0
cis-1,2-Dichloroethene		104.7	76.6	122.1	0.7	30.0
Tetrahydrofuran		87.0	59.0	117.9	5.8	30.0
Chloroform		100.0	78.4	124.0	0.3	30.0
Bromochloromethane		113.9	78.2	120.8	2.9	30.0
1,1,1-Trichloroethane		94.3	79.4	130.9	6.4	30.0
4-Methyl-2-pentanone (MIBK)		97.8	71.6	125.2	0.3	30.0
2-Hexanone		99.0	55.4	136.9	2.3	30.0
Carbon tetrachloride		89.9	72.6	133.0	12.0	30.0
Benzene		93.4	79.9	124.9	6.0	30.0
1,2-Dichloroethane		88.0	76.0	126.3	2.0	30.0
Trichloroethene		91.6	79.7	124.2	7.9	30.0
1,2-Dichloropropane		97.9	78.6	126.4	2.5	30.0
Bromodichloromethane		99.3	80.4	128.2	1.4	30.0
Dibromomethane		111.1	76.9	122.1	0.6	30.0
cis-1,3-Dichloropropene		106.0	79.8	129.9	1.1	30.0
Toluene		91.7	79.8	124.5	5.5	30.0
trans-1,3-Dichloropropene		107.5	74.0	131.3	1.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230906W1 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 230906A7.5280305N, Parent Sample ID: 230906A7.5280304M

Run in Batch: 230906A7, Run Date: 09/06/2023 12:47, Prep Date: 09/06/2023, Matrix: WW, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloroethane		98.3	78.7	123.1	0.5	30.0
Tetrachloroethene		95.9	74.5	124.5	8.0	30.0
trans-1,4-Dichloro-2-butene		96.0	68.6	135.4	2.2	30.0
Dibromochloromethane	*	71.0	74.6	127.2	4.8	30.0
1,2-Dibromoethane		102.7	70.3	133.7	4.6	30.0
Chlorobenzene		97.4	79.2	122.7	7.4	30.0
1,1,1,2-Tetrachloroethane		106.6	80.3	128.2	5.0	30.0
Ethylbenzene		92.1	79.5	129.1	11.7	30.0
p,m-Xylene		94.2	79.4	132.2	9.7	30.0
o-Xylene		93.3	80.2	131.0	9.6	30.0
Styrene		98.7	69.5	126.7	6.7	30.0
Isopropylbenzene		92.5	74.4	121.5	11.7	30.0
Bromoform		114.1	69.4	128.0	4.0	30.0
1,1,2,2-Tetrachloroethane		97.9	79.8	126.3	5.5	30.0
1,2,3-Trichloropropane		98.0	78.3	138.8	4.9	30.0
n-Propylbenzene		91.6	82.0	130.7	14.0	30.0
Bromobenzene		105.9	78.7	124.6	5.7	30.0
1,3,5-Trimethylbenzene		95.4	81.3	128.9	10.9	30.0
tert-Butylbenzene		88.0	80.7	128.9	12.4	30.0
1,2,4-Trimethylbenzene		96.4	81.4	130.8	9.4	30.0
sec-Butylbenzene		86.5	77.4	129.8	15.2	30.0
p-Isopropyltoluene		86.7	79.8	137.5	14.4	30.0
1,3-Dichlorobenzene		95.1	77.0	131.3	7.2	30.0
1,4-Dichlorobenzene		95.9	20.7	137.7	6.9	30.0
1,2-Dichlorobenzene		97.2	10.0	166.2	6.5	30.0
1,2,3-Trimethylbenzene		91.7	76.3	124.2	8.8	30.0
n-Butylbenzene		87.3	80.0	133.3	14.7	30.0
Hexachloroethane		100.6	23.8	138.1	12.3	30.0
1,2-Dibromo-3-chloropropane		104.5	21.2	189.4	7.9	30.0
1,2,4-Trichlorobenzene		107.6	27.4	143.4	5.9	30.0
1,2,3-Trichlorobenzene		110.4	75.4	131.4	2.3	30.0
Naphthalene		98.9	32.9	135.8	5.7	30.0
2-Methylnaphthalene		105.3	25.5	165.5	1.0	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230906W3

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

Blank (BLK)

Lab Sample ID: 230906B7.BLKW06B

Run in Batch: 230906B7, Run Date: 09/07/2023 00:54, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230906W3 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230906B7.BLKW06B

Run in Batch: 230906B7, Run Date: 09/07/2023 00:54, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230906B7.LCSW06B

Run in Batch: 230906B7, Run Date: 09/06/2023 23:20, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether	*	130.2	67.4	121.2
Acetone		122.5	29.9	161.5
Methyl iodide	*	126.1	68.8	116.4
Carbon disulfide		113.5	63.8	137.4
tert-Methyl butyl ether (MTBE)		116.3	73.2	122.4
Acrylonitrile		109.4	69.9	128.9
2-Butanone (MEK)		99.7	44.0	134.4
Dichlorodifluoromethane		92.9	10.0	222.8
Chloromethane		100.5	23.8	166.5
Vinyl chloride		100.5	43.5	149.1
Bromomethane		94.4	56.8	151.3
Chloroethane		96.4	53.4	149.4
Trichlorofluoromethane		93.6	59.7	151.8
1,1-Dichloroethene		104.6	69.6	139.4
Methylene chloride		119.3	73.3	121.1
trans-1,2-Dichloroethene		103.9	73.6	129.3
1,1-Dichloroethane		109.5	71.5	126.2
cis-1,2-Dichloroethene		113.9	76.6	122.1
Tetrahydrofuran		95.8	59.0	117.9
Chloroform		109.9	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230906W3 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230906B7.LCSW06B

Run in Batch: 230906B7, Run Date: 09/06/2023 23:20, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane	*	122.8	78.2	120.8
1,1,1-Trichloroethane		102.9	79.4	130.9
4-Methyl-2-pentanone (MIBK)		100.1	71.6	125.2
2-Hexanone		102.1	55.4	136.9
Carbon tetrachloride		102.6	72.6	133.0
Benzene		108.0	79.9	124.9
1,2-Dichloroethane		97.5	76.0	126.3
Trichloroethene		105.4	79.7	124.2
1,2-Dichloropropane		111.2	78.6	126.4
Bromodichloromethane		111.2	80.4	128.2
Dibromomethane	*	125.2	76.9	122.1
cis-1,3-Dichloropropene		114.7	79.8	129.9
Toluene		105.1	79.8	124.5
trans-1,3-Dichloropropene		114.4	74.0	131.3
1,1,2-Trichloroethane		112.0	78.7	123.1
Tetrachloroethene		106.7	74.5	124.5
trans-1,4-Dichloro-2-butene		94.8	68.6	135.4
Dibromochloromethane		123.4	74.6	127.2
1,2-Dibromoethane		114.4	70.3	133.7
Chlorobenzene		112.9	79.2	122.7
1,1,1,2-Tetrachloroethane		120.1	80.3	128.2
Ethylbenzene		107.4	79.5	129.1
p,m-Xylene		107.3	79.4	132.2
o-Xylene		107.5	80.2	131.0
Styrene		114.3	69.5	126.7
Isopropylbenzene		106.9	74.4	121.5
Bromoform		124.6	69.4	128.0
1,1,2,2-Tetrachloroethane		108.1	79.8	126.3
1,2,3-Trichloropropane		108.2	78.3	138.8
n-Propylbenzene		104.5	82.0	130.7
Bromobenzene		121.6	78.7	124.6
1,3,5-Trimethylbenzene		111.6	81.3	128.9
tert-Butylbenzene		101.2	80.7	128.9
1,2,4-Trimethylbenzene		110.5	81.4	130.8
sec-Butylbenzene		95.4	77.4	129.8
p-Isopropyltoluene		95.8	79.8	137.5
1,3-Dichlorobenzene		104.8	77.0	131.3
1,4-Dichlorobenzene		106.0	20.7	137.7
1,2-Dichlorobenzene		107.9	10.0	166.2
1,2,3-Trimethylbenzene		101.4	76.3	124.2
n-Butylbenzene		92.1	80.0	133.3
Hexachloroethane		107.7	23.8	138.1
1,2-Dibromo-3-chloropropane		105.5	21.2	189.4
1,2,4-Trichlorobenzene		114.8	27.4	143.4
1,2,3-Trichlorobenzene		115.1	75.4	131.4
Naphthalene		104.4	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230906W3 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230906B7.LCSW06B

Run in Batch: 230906B7, Run Date: 09/06/2023 23:20, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		100.0	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230906B7.LCSDW06B, Parent Sample ID: 230906B7.LCSW06B

Run in Batch: 230906B7, Run Date: 09/06/2023 23:44, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether	*	122.0	67.4	121.2	6.5	30.0
Acetone		121.9	29.9	161.5	0.5	30.0
Methyl iodide		114.7	68.8	116.4	9.5	30.0
Carbon disulfide		99.9	63.8	137.4	12.7	30.0
tert-Methyl butyl ether (MTBE)		110.3	73.2	122.4	5.3	30.0
Acrylonitrile		105.7	69.9	128.9	3.4	30.0
2-Butanone (MEK)		97.6	44.0	134.4	2.1	30.0
Dichlorodifluoromethane		82.7	10.0	222.8	11.6	30.0
Chloromethane		91.0	23.8	166.5	10.0	30.0
Vinyl chloride		90.4	43.5	149.1	10.6	30.0
Bromomethane		87.2	56.8	151.3	7.9	30.0
Chloroethane		87.8	53.4	149.4	9.3	30.0
Trichlorofluoromethane		83.9	59.7	151.8	10.9	30.0
1,1-Dichloroethene		93.3	69.6	139.4	11.5	30.0
Methylene chloride		110.2	73.3	121.1	7.9	30.0
trans-1,2-Dichloroethene		94.9	73.6	129.3	9.0	30.0
1,1-Dichloroethane		100.0	71.5	126.2	9.1	30.0
cis-1,2-Dichloroethene		104.7	76.6	122.1	8.4	30.0
Tetrahydrofuran		91.4	59.0	117.9	4.8	30.0
Chloroform		99.0	78.4	124.0	10.4	30.0
Bromochloromethane		114.8	78.2	120.8	6.8	30.0
1,1,1-Trichloroethane		92.8	79.4	130.9	10.3	30.0
4-Methyl-2-pentanone (MIBK)		101.1	71.6	125.2	1.0	30.0
2-Hexanone		102.3	55.4	136.9	0.1	30.0
Carbon tetrachloride		91.9	72.6	133.0	11.1	30.0
Benzene		96.6	79.9	124.9	11.1	30.0
1,2-Dichloroethane		90.1	76.0	126.3	7.8	30.0
Trichloroethene		94.3	79.7	124.2	11.1	30.0
1,2-Dichloropropane		101.1	78.6	126.4	9.5	30.0
Bromodichloromethane		101.6	80.4	128.2	9.0	30.0
Dibromomethane		116.8	76.9	122.1	6.9	30.0
cis-1,3-Dichloropropene		105.0	79.8	129.9	8.8	30.0
Toluene		94.7	79.8	124.5	10.4	30.0
trans-1,3-Dichloropropene		106.7	74.0	131.3	7.0	30.0
1,1,2-Trichloroethane		103.9	78.7	123.1	7.5	30.0
Tetrachloroethene		94.7	74.5	124.5	11.9	30.0
trans-1,4-Dichloro-2-butene		88.8	68.6	135.4	6.5	30.0
Dibromochloromethane		114.8	74.6	127.2	7.2	30.0
1,2-Dibromoethane		107.3	70.3	133.7	6.4	30.0
Chlorobenzene		101.0	79.2	122.7	11.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230906W3 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230906B7.LCSDW06B, Parent Sample ID: 230906B7.LCSW06B

Run in Batch: 230906B7, Run Date: 09/06/2023 23:44, Prep Date: 09/06/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		108.6	80.3	128.2	10.1	30.0
Ethylbenzene		96.1	79.5	129.1	11.1	30.0
p,m-Xylene		95.9	79.4	132.2	11.3	30.0
o-Xylene		96.1	80.2	131.0	11.2	30.0
Styrene		101.7	69.5	126.7	11.7	30.0
Isopropylbenzene		93.5	74.4	121.5	13.4	30.0
Bromoform		115.6	69.4	128.0	7.4	30.0
1,1,2,2-Tetrachloroethane		103.1	79.8	126.3	4.7	30.0
1,2,3-Trichloropropane		100.6	78.3	138.8	7.2	30.0
n-Propylbenzene		93.0	82.0	130.7	11.7	30.0
Bromobenzene		110.2	78.7	124.6	9.8	30.0
1,3,5-Trimethylbenzene		98.3	81.3	128.9	12.7	30.0
tert-Butylbenzene		90.3	80.7	128.9	11.4	30.0
1,2,4-Trimethylbenzene		97.6	81.4	130.8	12.3	30.0
sec-Butylbenzene		85.6	77.4	129.8	10.9	30.0
p-Isopropyltoluene		85.6	79.8	137.5	11.3	30.0
1,3-Dichlorobenzene		94.8	77.0	131.3	10.0	30.0
1,4-Dichlorobenzene		96.8	20.7	137.7	9.1	30.0
1,2-Dichlorobenzene		98.9	10.0	166.2	8.8	30.0
1,2,3-Trimethylbenzene		91.6	76.3	124.2	10.2	30.0
n-Butylbenzene		83.5	80.0	133.3	9.7	30.0
Hexachloroethane		97.4	23.8	138.1	10.0	30.0
1,2-Dibromo-3-chloropropane		104.3	21.2	189.4	1.2	30.0
1,2,4-Trichlorobenzene		107.2	27.4	143.4	6.9	30.0
1,2,3-Trichlorobenzene		110.5	75.4	131.4	4.1	30.0
Naphthalene		101.5	32.9	135.8	2.8	30.0
2-Methylnaphthalene		103.1	25.5	165.5	3.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS230907W1

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

Blank (BLK)

Lab Sample ID: 230907A9.BLKS07A

Run in Batch: 230907A9, Run Date: 09/07/2023 15:01, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.46	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230907A9.LCSS07A

Run in Batch: 230907A9, Run Date: 09/07/2023 12:44, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		101.6	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230907A9.LCSDS07X, Parent Sample ID: 230907A9.LCSS07A

Run in Batch: 230907A9, Run Date: 09/07/2023 13:52, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		103.4	70.0	130.0	1.8	30.0

Matrix Spike (MS)

Lab Sample ID: 230907A9.5282705M, Parent Sample ID: S52827.04

Run in Batch: 230907A9, Run Date: 09/07/2023 20:56, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		94.5	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230907A9.5282706N, Parent Sample ID: 230907A9.5282705M

Run in Batch: 230907A9, Run Date: 09/07/2023 21:17, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		113.1	70.0	130.0	4.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS230907W3

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

Blank (BLK)

Lab Sample ID: 230907B9.BLKW07B

Run in Batch: 230907B9, Run Date: 09/08/2023 04:15, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.44	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230907B9.LCSW07B

Run in Batch: 230907B9, Run Date: 09/08/2023 01:06, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		104.8	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230907B9.LCSDW07B, Parent Sample ID: 230907B9.LCSW07B

Run in Batch: 230907B9, Run Date: 09/08/2023 01:27, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		124.7	70.0	130.0	17.3	30.0

Matrix Spike (MS)

Lab Sample ID: 230907B9.5283102M, Parent Sample ID: S52831.01

Run in Batch: 230907B9, Run Date: 09/08/2023 02:51, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		98.5	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230907B9.5283103N, Parent Sample ID: 230907B9.5283102M

Run in Batch: 230907B9, Run Date: 09/08/2023 03:12, Prep Date: 09/07/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		92.0	70.0	130.0	6.6	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS230908W1

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

Blank (BLK)

Lab Sample ID: 230908A9.BLKW08A

Run in Batch: 230908A9, Run Date: 09/08/2023 15:51, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.48	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230908A9.LCSW08A

Run in Batch: 230908A9, Run Date: 09/08/2023 14:28, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		90.8	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230908A9.LCSDW08A, Parent Sample ID: 230908A9.LCSW08A

Run in Batch: 230908A9, Run Date: 09/08/2023 14:49, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		89.5	70.0	130.0	1.5	30.0

Matrix Spike (MS)

Lab Sample ID: 230908A9.5283102M, Parent Sample ID: S52831.01

Run in Batch: 230908A9, Run Date: 09/08/2023 18:35, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		90.9	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 230908A9.5283103N, Parent Sample ID: 230908A9.5283102M

Run in Batch: 230908A9, Run Date: 09/08/2023 18:55, Prep Date: 09/08/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		106.8	70.0	130.0	15.9	30.0

Merit Laboratories Login Checklist

Lab Set ID:S52830

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: RACER Lansing GWS - 30171056.0470A Plant 2

Submitted:08/30/2023 16:05 Login User: MMC

Attention: Kaitlyn Hunt

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 FAX:

Email: Kaitlyn.Hunt@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☐ Yes ☒ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 11.0
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____

Plant 2



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

C.O.C. PAGE # _____ OF _____

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME				Tiffany Linder, Kaitlyn Hunt			
COMPANY				Arcadis			
ADDRESS				28550 Cabot Drive, STE 500			
CITY			Novi		STATE		MI
ZIP CODE			48377				
PHONE NO.		947-777-5215		FAX NO.			
E-MAIL ADDRESS		kaitlyn.hunt@arcadis.com		QUOTE NO.			

CONTACT NAME		12:34 AM	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO	E-MAIL ADDRESS tiffany.linder@arcadis.com		

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RACER Lansing GWS - 30171056. <u>047DA</u>					SAMPLE(S) - PLEASE PRINT/SIGN NAME <u>Donald P. Richman / Donald Richman</u>	
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____						
DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ EDD ☐ OTHER _____						
MATRIX CODE.	GW=GROUNDWATER SL=SLUDGE	WW=WASTEWATER DW=DRINKING WATER	S=SOIL O=OIL	L=LIQUID WP=WPIPE	SD=SOLID A=AIR	W=WASTE
						# Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	NaOH MCH	OTHER
	DATE	TIME										
52830.01	8/29/23	1110	MW-22-157-082923	GW	3		3					
.02	8/29/23	1220	MW-22-155-082923	GW	3		3					
.03	8/29/23	1345	MW-22-153-082923	GW	3		3					
.04	8/29/23	1430	MW-22-156-082923	GW	3		3					
.05	8/29/23	1545	MW-14-58R-082923	GW	3		3					
.06	-	-	Trip blank		1		1					
.07	8/29/23	-	Dup-06-082923	GW	3		3					

[illegible]

RELINQUISHED BY	<i>3/3 Sample</i>	DATE	TIME
SIGNATURE/ORGANIZATION	<i>Daniel DeLeonard / Arcadia</i>	<i>8/30/23</i>	<i>1605</i>
RECEIVED BY		DATE	TIME
SIGNATURE/ORGANIZATION	<i>Shannon Young</i>	<i>8/30/22</i>	<i>1605</i>
RELINQUISHED BY		DATE	TIME
SIGNATURE/ORGANIZATION			
RECEIVED BY		DATE	TIME
SIGNATURE/ORGANIZATION			

RECEIVED BY: SIGNATURE/ORGANIZATION				DATE	TIME
SEAL NO	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES	TEMP ON ARRIVAL	11.0
SEAL NO	SEAL INTACT YES ☐ NO ☐	INITIALS			

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

May 5 10 12



Report ID: S53826.01(02)+QC01
Generated on 10/10/2023
Replaces report S53826.01(01) generated on 10/06/2023

Report to

Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 C:947-777-5215 FAX:
Email: Kaitlyn.Hunt@arcadis.com

Additional Contacts: Marina Samp, Tiffany Linder, Caitlin Cisco

Report produced by

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Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S53826.01-S53826.26
Project: 30171056.04100 / RACER Lansing
Collected Date(s): 09/26/2023 - 09/27/2023
Submitted Date/Time: 09/27/2023 12:15
Sampled by: Austin Westhuis
P.O. #: 30171056.04100

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Maya Murshak
Technical Director



General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

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, and 2-chloroethylvinyl ether 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.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

Report Narrative

Corrected sample tags

Laboratory Accreditations

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

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

Glossary of Abbreviations

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



Method Summary

Method	Version
N/A	Not Applicable
SM2540B	Standard Method 2540 B 2015
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW5035A	SW 846 Method 5035A Revision 1 July 2002
SW5035A/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5035A Revision 1 July 2002
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Sample Summary (26 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S53826.01	VAP-P2-NL58_1-2	Soil	09/26/23 14:15
S53826.02	VAP-P2-NL58_3.5-4.5	Soil	09/26/23 14:20
S53826.03	VAP-P2-NL58_7-8	Soil	09/26/23 14:25
S53826.04	VAP-P2-NL58_10-11	Soil	09/26/23 14:30
S53826.05	VAP-P2-NL58_10-15	Groundwater	09/26/23 14:45
S53826.06	VAP-P2-NL58_21-24.5	Groundwater	09/26/23 16:00
S53826.07	DUP-01_092623	Groundwater	09/26/23 00:01
S53826.08	VAP-P2-NP59_1-2	Soil	09/26/23 16:40
S53826.09	VAP-P2-NP59_3-4	Soil	09/26/23 16:45
S53826.10	VAP-P2-NP59_3-4 MS	Soil	09/26/23 16:45
S53826.11	VAP-P2-NP59_3-4 MSD	Soil	09/26/23 16:45
S53826.12	VAP-P2-NP59_6-7	Soil	09/26/23 16:50
S53826.13	VAP-P2-NP59_9-10	Soil	09/26/23 16:55
S53826.14	VAP-P2-NP59_10-15	Groundwater	09/26/23 17:10
S53826.15	VAP-P2-NP59_10-15 MS	Groundwater	09/26/23 17:10
S53826.16	VAP-P2-NP59_10-15 MSD	Groundwater	09/26/23 17:10
S53826.17	DUP-02_092623	Soil	09/26/23 00:01
S53826.18	VAP-P2-NP59_20-23.5	Groundwater	09/26/23 18:15
S53826.19	VAP-P2-NT58_1-2	Soil	09/27/23 09:15
S53826.20	VAP-P2-NT58_3-4	Soil	09/27/23 09:20
S53826.21	VAP-P2-NT58_6-7	Soil	09/27/23 09:25
S53826.22	VAP-P2-NT58_9-10	Soil	09/27/23 09:30
S53826.23	VAP-P2-NT58_10-15	Groundwater	09/27/23 09:35
S53826.24	VAP-P2-NT58_18-21.5	Groundwater	09/27/23 10:45
S53826.25	EB-01_092723	Groundwater	09/27/23 11:00
S53826.26	Trip Blank	Groundwater	09/26/23 00:01



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.01

Sample Tag: VAP-P2-NL58_1-2

Collected Date/Time: 09/26/2023 14:15

Matrix: Soil

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	9.974/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	93	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 14:47, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	57.7	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 18:56, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	57.7	60-29-7	
Acetone	Not detected	1,000		ug/kg	57.7	67-64-1	
Methyl iodide	Not detected	100		ug/kg	57.7	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	57.7	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	57.7	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	57.7	107-13-1	
2-Butanone (MEK)	Not detected	870		ug/kg	57.7	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	57.7	75-71-8	
Chloromethane	Not detected	300		ug/kg	57.7	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	57.7	75-01-4	
Bromomethane	Not detected	200		ug/kg	57.7	74-83-9	
Chloroethane	Not detected	300		ug/kg	57.7	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	57.7	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	57.7	75-35-4	
Methylene chloride	Not detected	100		ug/kg	57.7	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	57.7	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	57.7	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	57.7	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	57.7	109-99-9	
Chloroform	Not detected	60		ug/kg	57.7	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	57.7	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	57.7	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	57.7	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	57.7	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	57.7	56-23-5	
Benzene	Not detected	60		ug/kg	57.7	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	57.7	107-06-2	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.01 (continued)

Sample Tag: VAP-P2-NL58_1-2

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 18:56, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	57.7	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	57.7	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	57.7	75-27-4	
Dibromomethane	Not detected	300		ug/kg	57.7	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	57.7	10061-01-5	
Toluene	Not detected	60		ug/kg	57.7	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	57.7	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	57.7	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	57.7	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	57.7	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	57.7	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	57.7	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	57.7	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	57.7	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	57.7	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	57.7		
o-Xylene	Not detected	60		ug/kg	57.7	95-47-6	
Styrene	Not detected	60		ug/kg	57.7	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	57.7	98-82-8	
Bromoform	Not detected	100		ug/kg	57.7	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	57.7	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	57.7	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	57.7	103-65-1	
Bromobenzene	Not detected	100		ug/kg	57.7	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	57.7	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	57.7	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	57.7	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	57.7	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	57.7	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	57.7	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	57.7	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	57.7	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	57.7	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	57.7	104-51-8	
Hexachloroethane	Not detected	300		ug/kg	57.7	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	57.7	96-12-8	
1,2,4-Trichlorobenzene	Not detected	380		ug/kg	57.7	120-82-1	
1,2,3-Trichlorobenzene	Not detected	380		ug/kg	57.7	87-61-6	
Naphthalene	Not detected	300		ug/kg	57.7	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	57.7	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.02

Sample Tag: VAP-P2-NL58_3.5-4.5

Collected Date/Time: 09/26/2023 14:20

Matrix: Soil

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	9.715/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	90	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 15:07, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	62.7	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 19:19, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	62.7	60-29-7	
Acetone	Not detected	1,000		ug/kg	62.7	67-64-1	
Methyl iodide	Not detected	100		ug/kg	62.7	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	62.7	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	62.7	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	62.7	107-13-1	
2-Butanone (MEK)	Not detected	940		ug/kg	62.7	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	62.7	75-71-8	
Chloromethane	Not detected	300		ug/kg	62.7	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	62.7	75-01-4	
Bromomethane	Not detected	300		ug/kg	62.7	74-83-9	
Chloroethane	Not detected	300		ug/kg	62.7	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	62.7	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	62.7	75-35-4	
Methylene chloride	Not detected	100		ug/kg	62.7	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	62.7	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	62.7	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	62.7	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	62.7	109-99-9	
Chloroform	Not detected	60		ug/kg	62.7	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	62.7	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	62.7	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	62.7	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	62.7	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	62.7	56-23-5	
Benzene	Not detected	60		ug/kg	62.7	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	62.7	107-06-2	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.02 (continued)

Sample Tag: VAP-P2-NL58_3.5-4.5

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 19:19, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	62.7	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	62.7	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	62.7	75-27-4	
Dibromomethane	Not detected	300		ug/kg	62.7	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	62.7	10061-01-5	
Toluene	Not detected	60		ug/kg	62.7	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	62.7	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	62.7	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	62.7	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	62.7	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	62.7	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	62.7	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	62.7	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	62.7	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	62.7	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	62.7		
o-Xylene	Not detected	60		ug/kg	62.7	95-47-6	
Styrene	Not detected	60		ug/kg	62.7	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	62.7	98-82-8	
Bromoform	Not detected	100		ug/kg	62.7	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	62.7	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	62.7	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	62.7	103-65-1	
Bromobenzene	Not detected	100		ug/kg	62.7	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	62.7	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	62.7	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	62.7	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	62.7	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	62.7	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	62.7	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	62.7	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	62.7	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	62.7	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	62.7	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	62.7	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	62.7	96-12-8	
1,2,4-Trichlorobenzene	Not detected	410		ug/kg	62.7	120-82-1	
1,2,3-Trichlorobenzene	Not detected	410		ug/kg	62.7	87-61-6	
Naphthalene	Not detected	300		ug/kg	62.7	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	62.7	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.03

Sample Tag: VAP-P2-NL58_7-8

Collected Date/Time: 09/26/2023 14:25

Matrix: Soil

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	9.786/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	82	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 15:28, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	70		ug/kg	73.3	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 19:43, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	73.3	60-29-7	
Acetone	Not detected	1,000		ug/kg	73.3	67-64-1	
Methyl iodide	Not detected	100		ug/kg	73.3	74-88-4	
Carbon disulfide	Not detected	400		ug/kg	73.3	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	73.3	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	73.3	107-13-1	
2-Butanone (MEK)	Not detected	1,100		ug/kg	73.3	78-93-3	
Dichlorodifluoromethane	Not detected	400		ug/kg	73.3	75-71-8	
Chloromethane	Not detected	400		ug/kg	73.3	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	73.3	75-01-4	
Bromomethane	Not detected	300		ug/kg	73.3	74-83-9	
Chloroethane	Not detected	400		ug/kg	73.3	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	73.3	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	73.3	75-35-4	
Methylene chloride	Not detected	100		ug/kg	73.3	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	73.3	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	73.3	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	73.3	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	73.3	109-99-9	
Chloroform	Not detected	70		ug/kg	73.3	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	73.3	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	73.3	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	4,000		ug/kg	73.3	108-10-1	
2-Hexanone	Not detected	4,000		ug/kg	73.3	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	73.3	56-23-5	
Benzene	Not detected	70		ug/kg	73.3	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	73.3	107-06-2	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.03 (continued)

Sample Tag: VAP-P2-NL58_7-8

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 19:43, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	70		ug/kg	73.3	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	73.3	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	73.3	75-27-4	
Dibromomethane	Not detected	400		ug/kg	73.3	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	73.3	10061-01-5	
Toluene	Not detected	70		ug/kg	73.3	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	73.3	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	73.3	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	73.3	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	73.3	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	73.3	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	73.3	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	73.3	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	73.3	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	73.3	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	73.3		
o-Xylene	Not detected	70		ug/kg	73.3	95-47-6	
Styrene	Not detected	70		ug/kg	73.3	100-42-5	
Isopropylbenzene	Not detected	400		ug/kg	73.3	98-82-8	
Bromoform	Not detected	100		ug/kg	73.3	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	73.3	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	73.3	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	73.3	103-65-1	
Bromobenzene	Not detected	100		ug/kg	73.3	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	73.3	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	73.3	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	73.3	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	73.3	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	73.3	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	73.3	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	73.3	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	73.3	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	73.3	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	73.3	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	73.3	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	400		ug/kg	73.3	96-12-8	
1,2,4-Trichlorobenzene	Not detected	480		ug/kg	73.3	120-82-1	
1,2,3-Trichlorobenzene	Not detected	480		ug/kg	73.3	87-61-6	
Naphthalene	Not detected	400		ug/kg	73.3	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	73.3	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.04

Sample Tag: VAP-P2-NL58_10-11

Collected Date/Time: 09/26/2023 14:30

Matrix: Soil

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.023/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	88	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 15:49, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	63.5	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 20:06, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	63.5	60-29-7	
Acetone	Not detected	1,000		ug/kg	63.5	67-64-1	
Methyl iodide	Not detected	100		ug/kg	63.5	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	63.5	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	63.5	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	63.5	107-13-1	
2-Butanone (MEK)	Not detected	950		ug/kg	63.5	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	63.5	75-71-8	
Chloromethane	Not detected	300		ug/kg	63.5	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	63.5	75-01-4	
Bromomethane	Not detected	300		ug/kg	63.5	74-83-9	
Chloroethane	Not detected	300		ug/kg	63.5	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	63.5	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	63.5	75-35-4	
Methylene chloride	Not detected	100		ug/kg	63.5	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	63.5	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	63.5	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	63.5	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	63.5	109-99-9	
Chloroform	Not detected	60		ug/kg	63.5	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	63.5	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	63.5	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	63.5	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	63.5	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	63.5	56-23-5	
Benzene	Not detected	60		ug/kg	63.5	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	63.5	107-06-2	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.04 (continued)

Sample Tag: VAP-P2-NL58_10-11

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 20:06, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	63.5	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	63.5	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	63.5	75-27-4	
Dibromomethane	Not detected	300		ug/kg	63.5	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	63.5	10061-01-5	
Toluene	Not detected	60		ug/kg	63.5	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	63.5	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	63.5	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	63.5	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	63.5	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	63.5	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	63.5	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	63.5	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	63.5	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	63.5	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	63.5		
o-Xylene	Not detected	60		ug/kg	63.5	95-47-6	
Styrene	Not detected	60		ug/kg	63.5	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	63.5	98-82-8	
Bromoform	Not detected	100		ug/kg	63.5	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	63.5	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	63.5	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	63.5	103-65-1	
Bromobenzene	Not detected	100		ug/kg	63.5	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	63.5	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	63.5	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	63.5	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	63.5	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	63.5	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	63.5	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	63.5	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	63.5	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	63.5	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	63.5	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	63.5	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	63.5	96-12-8	
1,2,4-Trichlorobenzene	Not detected	420		ug/kg	63.5	120-82-1	
1,2,3-Trichlorobenzene	Not detected	420		ug/kg	63.5	87-61-6	
Naphthalene	Not detected	300		ug/kg	63.5	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	63.5	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.05

Sample Tag: VAP-P2-NL58_10-15

Collected Date/Time: 09/26/2023 14:45

Matrix: Groundwater

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	>2	N/A	10/02/23 12:06	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 23:49, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/29/23 17:49, Analyst: NDK

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

Lab Sample ID: S53826.05 (continued)

Sample Tag: VAP-P2-NL58_10-15

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/29/23 17:49, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.06

Sample Tag: VAP-P2-NL58_21-24.5

Collected Date/Time: 09/26/2023 16:00

Matrix: Groundwater

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	>2	N/A	10/02/23 12:06	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/04/23 00:10, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	53	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/29/23 18:08, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	26	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	25	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	315	1		ug/L	1	75-34-3	E
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	8	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	

E-Concentration exceeds calibration range

Lab Sample ID: S53826.06 (continued)

Sample Tag: VAP-P2-NL58_21-24.5

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/29/23 18:08, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	2	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 10/06/23 05:48, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y

Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S53826.06 (continued)

Sample Tag: VAP-P2-NL58_21-24.5

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 10/06/23 05:48, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	10	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	230	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	Not detected	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	Not detected	10		ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y

Y-Elevated reporting limit due to high target concentration



Lab Sample ID: S53826.06 (continued)
Sample Tag: VAP-P2-NL58_21-24.5

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 10/06/23 05:48, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.07

Sample Tag: DUP-01_092623

Collected Date/Time: 09/26/2023 00:01

Matrix: Groundwater

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	>2	N/A	10/02/23 12:06	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/04/23 00:31, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	55	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/29/23 18:28, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	27	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	27	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	336	1		ug/L	1	75-34-3	E
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	9	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	

E-Concentration exceeds calibration range

Lab Sample ID: S53826.07 (continued)

Sample Tag: DUP-01_092623

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/29/23 18:28, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	2	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 10/02/23 20:38, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.07 (continued)

Sample Tag: DUP-01_092623

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 10/02/23 20:38, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	20	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	250	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	Not detected	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	Not detected	10		ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y

Y-Elevated reporting limit due to high target concentration



Lab Sample ID: S53826.07 (continued)

Sample Tag: DUP-01_092623

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 10/02/23 20:38, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.08

Sample Tag: VAP-P2-NP59_1-2

Collected Date/Time: 09/26/2023 16:40

Matrix: Soil

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	9.889/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	89	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 16:10, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	63	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 20:30, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	63	60-29-7	
Acetone	Not detected	1,000		ug/kg	63	67-64-1	
Methyl iodide	Not detected	100		ug/kg	63	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	63	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	63	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	63	107-13-1	
2-Butanone (MEK)	Not detected	950		ug/kg	63	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	63	75-71-8	
Chloromethane	Not detected	300		ug/kg	63	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	63	75-01-4	
Bromomethane	Not detected	300		ug/kg	63	74-83-9	
Chloroethane	Not detected	300		ug/kg	63	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	63	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	63	75-35-4	
Methylene chloride	Not detected	100		ug/kg	63	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	63	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	63	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	63	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	63	109-99-9	
Chloroform	Not detected	60		ug/kg	63	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	63	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	63	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	63	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	63	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	63	56-23-5	
Benzene	Not detected	60		ug/kg	63	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	63	107-06-2	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.08 (continued)

Sample Tag: VAP-P2-NP59_1-2

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 20:30, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	63	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	63	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	63	75-27-4	
Dibromomethane	Not detected	300		ug/kg	63	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	63	10061-01-5	
Toluene	Not detected	60		ug/kg	63	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	63	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	63	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	63	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	63	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	63	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	63	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	63	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	63	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	63	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	63		
o-Xylene	Not detected	60		ug/kg	63	95-47-6	
Styrene	Not detected	60		ug/kg	63	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	63	98-82-8	
Bromoform	Not detected	100		ug/kg	63	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	63	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	63	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	63	103-65-1	
Bromobenzene	Not detected	100		ug/kg	63	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	63	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	63	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	63	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	63	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	63	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	63	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	63	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	63	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	63	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	63	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	63	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	63	96-12-8	
1,2,4-Trichlorobenzene	Not detected	420		ug/kg	63	120-82-1	
1,2,3-Trichlorobenzene	Not detected	420		ug/kg	63	87-61-6	
Naphthalene	Not detected	300		ug/kg	63	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	63	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.09

Sample Tag: VAP-P2-NP59_3-4

Collected Date/Time: 09/26/2023 16:45

Matrix: Soil

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.263/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 16:31, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	63.5	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/05/23 15:18, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	63.5	60-29-7	
Acetone	Not detected	1,000		ug/kg	63.5	67-64-1	
Methyl iodide	Not detected	100		ug/kg	63.5	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	63.5	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	63.5	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	63.5	107-13-1	
2-Butanone (MEK)	Not detected	950		ug/kg	63.5	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	63.5	75-71-8	
Chloromethane	Not detected	300		ug/kg	63.5	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	63.5	75-01-4	
Bromomethane	Not detected	300		ug/kg	63.5	74-83-9	
Chloroethane	Not detected	300		ug/kg	63.5	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	63.5	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	63.5	75-35-4	
Methylene chloride	Not detected	100		ug/kg	63.5	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	63.5	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	63.5	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	63.5	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	63.5	109-99-9	
Chloroform	Not detected	60		ug/kg	63.5	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	63.5	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	63.5	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	63.5	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	63.5	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	63.5	56-23-5	
Benzene	Not detected	60		ug/kg	63.5	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	63.5	107-06-2	

Lab Sample ID: S53826.09 (continued)

Sample Tag: VAP-P2-NP59_3-4

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/05/23 15:18, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	63.5	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	63.5	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	63.5	75-27-4	
Dibromomethane	Not detected	300		ug/kg	63.5	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	63.5	10061-01-5	
Toluene	Not detected	60		ug/kg	63.5	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	63.5	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	63.5	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	63.5	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	63.5	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	63.5	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	63.5	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	63.5	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	63.5	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	63.5	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	63.5		
o-Xylene	Not detected	60		ug/kg	63.5	95-47-6	
Styrene	Not detected	60		ug/kg	63.5	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	63.5	98-82-8	
Bromoform	Not detected	100		ug/kg	63.5	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	63.5	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	63.5	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	63.5	103-65-1	
Bromobenzene	Not detected	100		ug/kg	63.5	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	63.5	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	63.5	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	63.5	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	63.5	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	63.5	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	63.5	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	63.5	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	63.5	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	63.5	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	63.5	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	63.5	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	63.5	96-12-8	
1,2,4-Trichlorobenzene	Not detected	420		ug/kg	63.5	120-82-1	
1,2,3-Trichlorobenzene	Not detected	420		ug/kg	63.5	87-61-6	
Naphthalene	Not detected	300		ug/kg	63.5	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	63.5	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.10

Sample Tag: VAP-P2-NP59_3-4 MS

Collected Date/Time: 09/26/2023 16:45

Matrix: Soil

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.583/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 19:18, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	2,640	60		ug/kg	61.8	123-91-1	1

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/05/23 13:44, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	3,400	200		ug/kg	61.8	60-29-7	1
Acetone	3,000	1,000		ug/kg	61.8	67-64-1	1
Methyl iodide	3,700	100		ug/kg	61.8	74-88-4	1
Carbon disulfide	3,800	300		ug/kg	61.8	75-15-0	1
tert-Methyl butyl ether (MTBE)	3,200	200		ug/kg	61.8	1634-04-4	1
Acrylonitrile	3,500	100		ug/kg	61.8	107-13-1	1
2-Butanone (MEK)	2,850	930		ug/kg	61.8	78-93-3	1
Dichlorodifluoromethane	3,200	300		ug/kg	61.8	75-71-8	1
Chloromethane	3,300	300		ug/kg	61.8	74-87-3	1
Vinyl chloride	3,190	60		ug/kg	61.8	75-01-4	1
Bromomethane	2,900	200		ug/kg	61.8	74-83-9	1
Chloroethane	3,100	300		ug/kg	61.8	75-00-3	1
Trichlorofluoromethane	3,100	100		ug/kg	61.8	75-69-4	1
1,1-Dichloroethene	3,640	60		ug/kg	61.8	75-35-4	1
Methylene chloride	3,400	100		ug/kg	61.8	75-09-2	1
trans-1,2-Dichloroethene	3,570	60		ug/kg	61.8	156-60-5	1
1,1-Dichloroethane	3,470	60		ug/kg	61.8	75-34-3	1
cis-1,2-Dichloroethene	3,480	60		ug/kg	61.8	156-59-2	1
Tetrahydrofuran*	3,000	1,000		ug/kg	61.8	109-99-9	1
Chloroform	3,370	60		ug/kg	61.8	67-66-3	1
Bromochloromethane	3,500	100		ug/kg	61.8	74-97-5	1
1,1,1-Trichloroethane	3,570	60		ug/kg	61.8	71-55-6	1
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	61.8	108-10-1	1
2-Hexanone	Not detected	3,000		ug/kg	61.8	591-78-6	1
Carbon tetrachloride	3,680	60		ug/kg	61.8	56-23-5	1
Benzene	3,510	60		ug/kg	61.8	71-43-2	1

1-Spiked at 3.09 mg/kg



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.10 (continued)

Sample Tag: VAP-P2-NP59_3-4 MS

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/05/23 13:44, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichloroethane	3,430	60		ug/kg	61.8	107-06-2	1
Trichloroethene	3,480	60		ug/kg	61.8	79-01-6	1
1,2-Dichloropropane	3,410	60		ug/kg	61.8	78-87-5	1
Bromodichloromethane	3,400	100		ug/kg	61.8	75-27-4	1
Dibromomethane	3,300	300		ug/kg	61.8	74-95-3	1
cis-1,3-Dichloropropene	3,460	60		ug/kg	61.8	10061-01-5	1
Toluene	3,410	60		ug/kg	61.8	108-88-3	1
trans-1,3-Dichloropropene	3,500	60		ug/kg	61.8	10061-02-6	1
1,1,2-Trichloroethane	3,220	60		ug/kg	61.8	79-00-5	1
Tetrachloroethene	3,500	60		ug/kg	61.8	127-18-4	1
trans-1,4-Dichloro-2-butene	3,310	60		ug/kg	61.8	110-57-6	1
Dibromochloromethane	3,300	100		ug/kg	61.8	124-48-1	1
1,2-Dibromoethane	3,210	20		ug/kg	61.8	106-93-4	1M
Chlorobenzene	3,170	60		ug/kg	61.8	108-90-7	1
1,1,1,2-Tetrachloroethane	3,300	100		ug/kg	61.8	630-20-6	1
Ethylbenzene	3,220	60		ug/kg	61.8	100-41-4	1
p,m-Xylene	6,500	100		ug/kg	61.8		1
o-Xylene	3,160	60		ug/kg	61.8	95-47-6	1
Styrene	3,180	60		ug/kg	61.8	100-42-5	1
Isopropylbenzene	3,200	300		ug/kg	61.8	98-82-8	1
Bromoform	3,300	100		ug/kg	61.8	75-25-2	1
1,1,2,2-Tetrachloroethane	3,080	60		ug/kg	61.8	79-34-5	1
1,2,3-Trichloropropane	3,100	100		ug/kg	61.8	96-18-4	1
n-Propylbenzene	3,210	60		ug/kg	61.8	103-65-1	1
Bromobenzene	3,200	100		ug/kg	61.8	108-86-1	1
1,3,5-Trimethylbenzene	3,230	60		ug/kg	61.8	108-67-8	1
tert-Butylbenzene	3,160	60		ug/kg	61.8	98-06-6	1
1,2,4-Trimethylbenzene	3,220	60		ug/kg	61.8	95-63-6	1
sec-Butylbenzene	3,150	60		ug/kg	61.8	135-98-8	1
p-Isopropyltoluene	3,200	100		ug/kg	61.8	99-87-6	1
1,3-Dichlorobenzene	3,100	100		ug/kg	61.8	541-73-1	1
1,4-Dichlorobenzene	3,000	100		ug/kg	61.8	106-46-7	1
1,2-Dichlorobenzene	3,000	100		ug/kg	61.8	95-50-1	1
1,2,3-Trimethylbenzene	2,930	60		ug/kg	61.8	526-73-8	1
n-Butylbenzene	3,210	60		ug/kg	61.8	104-51-8	1
Hexachloroethane	3,100	400		ug/kg	61.8	67-72-1	1
1,2-Dibromo-3-chloropropane	3,100	300		ug/kg	61.8	96-12-8	1
1,2,4-Trichlorobenzene	3,220	410		ug/kg	61.8	120-82-1	1
1,2,3-Trichlorobenzene	3,160	410		ug/kg	61.8	87-61-6	1
Naphthalene	3,100	300		ug/kg	61.8	91-20-3	1
2-Methylnaphthalene	3,200	100		ug/kg	61.8	91-57-6	1

1-Spiked at 3.09 mg/kg

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.11

Sample Tag: VAP-P2-NP59_3-4 MSD

Collected Date/Time: 09/26/2023 16:45

Matrix: Soil

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.831/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 19:39, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	2,510	60		ug/kg	60.5	123-91-1	1

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/05/23 14:07, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	3,300	200		ug/kg	60.5	60-29-7	2
Acetone	3,000	1,000		ug/kg	60.5	67-64-1	2
Methyl iodide	3,400	100		ug/kg	60.5	74-88-4	2
Carbon disulfide	3,600	300		ug/kg	60.5	75-15-0	2
tert-Methyl butyl ether (MTBE)	3,100	200		ug/kg	60.5	1634-04-4	2
Acrylonitrile	3,300	100		ug/kg	60.5	107-13-1	2
2-Butanone (MEK)	2,870	910		ug/kg	60.5	78-93-3	2
Dichlorodifluoromethane	3,000	300		ug/kg	60.5	75-71-8	2
Chloromethane	3,100	300		ug/kg	60.5	74-87-3	2
Vinyl chloride	3,070	60		ug/kg	60.5	75-01-4	2
Bromomethane	3,000	200		ug/kg	60.5	74-83-9	2
Chloroethane	3,200	300		ug/kg	60.5	75-00-3	2
Trichlorofluoromethane	3,000	100		ug/kg	60.5	75-69-4	2
1,1-Dichloroethene	3,440	60		ug/kg	60.5	75-35-4	2
Methylene chloride	3,200	100		ug/kg	60.5	75-09-2	2
trans-1,2-Dichloroethene	3,340	60		ug/kg	60.5	156-60-5	2
1,1-Dichloroethane	3,260	60		ug/kg	60.5	75-34-3	2
cis-1,2-Dichloroethene	3,240	60		ug/kg	60.5	156-59-2	2
Tetrahydrofuran*	3,000	1,000		ug/kg	60.5	109-99-9	2
Chloroform	3,160	60		ug/kg	60.5	67-66-3	2
Bromochloromethane	3,300	100		ug/kg	60.5	74-97-5	2
1,1,1-Trichloroethane	3,420	60		ug/kg	60.5	71-55-6	2
4-Methyl-2-pentanone (MIBK)	3,000	3,000		ug/kg	60.5	108-10-1	2
2-Hexanone	Not detected	3,000		ug/kg	60.5	591-78-6	2
Carbon tetrachloride	3,500	60		ug/kg	60.5	56-23-5	2

1-Spiked at 3.02 mg/kg

2-Spiked at 3.03 mg/kg



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.11 (continued)

Sample Tag: VAP-P2-NP59_3-4 MSD

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/05/23 14:07, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Benzene	3,350	60		ug/kg	60.5	71-43-2	1
1,2-Dichloroethane	3,220	60		ug/kg	60.5	107-06-2	1
Trichloroethene	3,310	60		ug/kg	60.5	79-01-6	1
1,2-Dichloropropane	3,210	60		ug/kg	60.5	78-87-5	1
Bromodichloromethane	3,200	100		ug/kg	60.5	75-27-4	1
Dibromomethane	3,200	300		ug/kg	60.5	74-95-3	1
cis-1,3-Dichloropropene	3,260	60		ug/kg	60.5	10061-01-5	1
Toluene	3,200	60		ug/kg	60.5	108-88-3	1
trans-1,3-Dichloropropene	3,240	60		ug/kg	60.5	10061-02-6	1
1,1,2-Trichloroethane	3,070	60		ug/kg	60.5	79-00-5	1
Tetrachloroethene	3,390	60		ug/kg	60.5	127-18-4	1
trans-1,4-Dichloro-2-butene	3,220	60		ug/kg	60.5	110-57-6	1
Dibromochloromethane	3,100	100		ug/kg	60.5	124-48-1	1
1,2-Dibromoethane	3,070	20		ug/kg	60.5	106-93-4	1M
Chlorobenzene	2,970	60		ug/kg	60.5	108-90-7	1
1,1,1,2-Tetrachloroethane	3,100	100		ug/kg	60.5	630-20-6	1
Ethylbenzene	3,040	60		ug/kg	60.5	100-41-4	1
p,m-Xylene	6,100	100		ug/kg	60.5		1
o-Xylene	2,960	60		ug/kg	60.5	95-47-6	1
Styrene	2,990	60		ug/kg	60.5	100-42-5	1
Isopropylbenzene	3,000	300		ug/kg	60.5	98-82-8	1
Bromoform	3,100	100		ug/kg	60.5	75-25-2	1
1,1,2,2-Tetrachloroethane	2,940	60		ug/kg	60.5	79-34-5	1
1,2,3-Trichloropropane	3,000	100		ug/kg	60.5	96-18-4	1
n-Propylbenzene	3,000	60		ug/kg	60.5	103-65-1	1
Bromobenzene	3,000	100		ug/kg	60.5	108-86-1	1
1,3,5-Trimethylbenzene	2,960	60		ug/kg	60.5	108-67-8	1
tert-Butylbenzene	2,940	60		ug/kg	60.5	98-06-6	1
1,2,4-Trimethylbenzene	2,960	60		ug/kg	60.5	95-63-6	1
sec-Butylbenzene	2,920	60		ug/kg	60.5	135-98-8	1
p-Isopropyltoluene	2,900	100		ug/kg	60.5	99-87-6	1
1,3-Dichlorobenzene	2,900	100		ug/kg	60.5	541-73-1	1
1,4-Dichlorobenzene	2,800	100		ug/kg	60.5	106-46-7	1
1,2-Dichlorobenzene	2,800	100		ug/kg	60.5	95-50-1	1
1,2,3-Trimethylbenzene	2,710	60		ug/kg	60.5	526-73-8	1
n-Butylbenzene	2,980	60		ug/kg	60.5	104-51-8	1
Hexachloroethane	2,900	400		ug/kg	60.5	67-72-1	1
1,2-Dibromo-3-chloropropane	3,000	300		ug/kg	60.5	96-12-8	1
1,2,4-Trichlorobenzene	2,990	400		ug/kg	60.5	120-82-1	1
1,2,3-Trichlorobenzene	2,910	400		ug/kg	60.5	87-61-6	1
Naphthalene	3,000	300		ug/kg	60.5	91-20-3	1
2-Methylnaphthalene	3,100	100		ug/kg	60.5	91-57-6	1

1-Spiked at 3.03 mg/kg

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.12

Sample Tag: VAP-P2-NP59_6-7

Collected Date/Time: 09/26/2023 16:50

Matrix: Soil

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.352/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	88	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 16:52, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	61.7	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 22:05, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	61.7	60-29-7	
Acetone	Not detected	1,000		ug/kg	61.7	67-64-1	
Methyl iodide	Not detected	100		ug/kg	61.7	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	61.7	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	61.7	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	61.7	107-13-1	
2-Butanone (MEK)	Not detected	930		ug/kg	61.7	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	61.7	75-71-8	
Chloromethane	Not detected	300		ug/kg	61.7	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	61.7	75-01-4	
Bromomethane	Not detected	200		ug/kg	61.7	74-83-9	
Chloroethane	Not detected	300		ug/kg	61.7	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	61.7	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	61.7	75-35-4	
Methylene chloride	Not detected	100		ug/kg	61.7	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	61.7	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	61.7	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	61.7	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	61.7	109-99-9	
Chloroform	Not detected	60		ug/kg	61.7	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	61.7	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	61.7	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	61.7	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	61.7	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	61.7	56-23-5	
Benzene	Not detected	60		ug/kg	61.7	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	61.7	107-06-2	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.12 (continued)

Sample Tag: VAP-P2-NP59_6-7

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 22:05, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	61.7	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	61.7	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	61.7	75-27-4	
Dibromomethane	Not detected	300		ug/kg	61.7	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	61.7	10061-01-5	
Toluene	Not detected	60		ug/kg	61.7	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	61.7	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	61.7	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	61.7	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	61.7	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	61.7	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	61.7	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	61.7	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	61.7	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	61.7	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	61.7		
o-Xylene	Not detected	60		ug/kg	61.7	95-47-6	
Styrene	Not detected	60		ug/kg	61.7	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	61.7	98-82-8	
Bromoform	Not detected	100		ug/kg	61.7	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	61.7	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	61.7	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	61.7	103-65-1	
Bromobenzene	Not detected	100		ug/kg	61.7	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	61.7	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	61.7	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	61.7	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	61.7	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	61.7	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	61.7	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	61.7	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	61.7	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	61.7	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	61.7	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	61.7	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	61.7	96-12-8	
1,2,4-Trichlorobenzene	Not detected	410		ug/kg	61.7	120-82-1	
1,2,3-Trichlorobenzene	Not detected	410		ug/kg	61.7	87-61-6	
Naphthalene	Not detected	300		ug/kg	61.7	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	61.7	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.13

Sample Tag: VAP-P2-NP59_9-10

Collected Date/Time: 09/26/2023 16:55

Matrix: Soil

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.716/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	90	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 17:13, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	57.4	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 22:30, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	57.4	60-29-7	
Acetone	Not detected	1,000		ug/kg	57.4	67-64-1	
Methyl iodide	Not detected	100		ug/kg	57.4	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	57.4	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	57.4	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	57.4	107-13-1	
2-Butanone (MEK)	Not detected	860		ug/kg	57.4	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	57.4	75-71-8	
Chloromethane	Not detected	300		ug/kg	57.4	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	57.4	75-01-4	
Bromomethane	Not detected	200		ug/kg	57.4	74-83-9	
Chloroethane	Not detected	300		ug/kg	57.4	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	57.4	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	57.4	75-35-4	
Methylene chloride	Not detected	100		ug/kg	57.4	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	57.4	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	57.4	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	57.4	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	57.4	109-99-9	
Chloroform	Not detected	60		ug/kg	57.4	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	57.4	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	57.4	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	57.4	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	57.4	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	57.4	56-23-5	
Benzene	Not detected	60		ug/kg	57.4	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	57.4	107-06-2	



Lab Sample ID: S53826.13 (continued)

Sample Tag: VAP-P2-NP59_9-10

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/02/23 22:30, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	57.4	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	57.4	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	57.4	75-27-4	
Dibromomethane	Not detected	300		ug/kg	57.4	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	57.4	10061-01-5	
Toluene	Not detected	60		ug/kg	57.4	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	57.4	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	57.4	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	57.4	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	57.4	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	57.4	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	57.4	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	57.4	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	57.4	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	57.4	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	57.4		
o-Xylene	Not detected	60		ug/kg	57.4	95-47-6	
Styrene	Not detected	60		ug/kg	57.4	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	57.4	98-82-8	
Bromoform	Not detected	100		ug/kg	57.4	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	57.4	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	57.4	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	57.4	103-65-1	
Bromobenzene	Not detected	100		ug/kg	57.4	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	57.4	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	57.4	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	57.4	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	57.4	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	57.4	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	57.4	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	57.4	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	57.4	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	57.4	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	57.4	104-51-8	
Hexachloroethane	Not detected	300		ug/kg	57.4	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	57.4	96-12-8	
1,2,4-Trichlorobenzene	Not detected	380		ug/kg	57.4	120-82-1	
1,2,3-Trichlorobenzene	Not detected	380		ug/kg	57.4	87-61-6	
Naphthalene	Not detected	300		ug/kg	57.4	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	57.4	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.14

Sample Tag: VAP-P2-NP59_10-15

Collected Date/Time: 09/26/2023 17:10

Matrix: Groundwater

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/03/23 10:43	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/04/23 00:51, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	2	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/23 18:04, Analyst: NDK

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

Lab Sample ID: S53826.14 (continued)

Sample Tag: VAP-P2-NP59_10-15

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/23 18:04, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.15

Sample Tag: VAP-P2-NP59_10-15 MS

Collected Date/Time: 09/26/2023 17:10

Matrix: Groundwater

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/03/23 10:43	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/04/23 02:15, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	44	1		ug/L	1	123-91-1	1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/23 21:55, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	48	10		ug/L	1	60-29-7	1
Acetone	Not detected	50		ug/L	1	67-64-1	1
Methyl iodide	52	1		ug/L	1	74-88-4	1
Carbon disulfide	50	5		ug/L	1	75-15-0	1
tert-Methyl butyl ether (MTBE)	54	5		ug/L	1	1634-04-4	1
Acrylonitrile	51	2		ug/L	1	107-13-1	1
2-Butanone (MEK)	47	25		ug/L	1	78-93-3	1
Dichlorodifluoromethane	39	5		ug/L	1	75-71-8	1
Chloromethane	40	5		ug/L	1	74-87-3	1
Vinyl chloride	42	1		ug/L	1	75-01-4	1
Bromomethane	41	5		ug/L	1	74-83-9	1
Chloroethane	42	5		ug/L	1	75-00-3	1
Trichlorofluoromethane	44	1		ug/L	1	75-69-4	1
1,1-Dichloroethene	51	1		ug/L	1	75-35-4	1
Methylene chloride	48	5		ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	50	1		ug/L	1	156-60-5	1
1,1-Dichloroethane	57	1		ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	49	1		ug/L	1	156-59-2	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Chloroform	46	1		ug/L	1	67-66-3	1
Bromochloromethane	49	1		ug/L	1	74-97-5	1
1,1,1-Trichloroethane	50	1		ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	1
2-Hexanone	Not detected	50		ug/L	1	591-78-6	1
Carbon tetrachloride	52	1		ug/L	1	56-23-5	1
Benzene	49	1		ug/L	1	71-43-2	1
1,2-Dichloroethane	46	1		ug/L	1	107-06-2	1
Trichloroethene	50	1		ug/L	1	79-01-6	1
1,2-Dichloropropane	49	1		ug/L	1	78-87-5	1
Bromodichloromethane	47	1		ug/L	1	75-27-4	1
Dibromomethane	50	5		ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	48	1		ug/L	1	10061-01-5	1

1-Spiked at 50 ug/L

Lab Sample ID: S53826.15 (continued)

Sample Tag: VAP-P2-NP59_10-15 MS

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/23 21:55, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	48	1		ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	46	1		ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	49	1		ug/L	1	79-00-5	1
Tetrachloroethene	52	1		ug/L	1	127-18-4	1
trans-1,4-Dichloro-2-butene	48	1		ug/L	1	110-57-6	1
Dibromochloromethane	51	5		ug/L	1	124-48-1	1
1,2-Dibromoethane	52	1		ug/L	1	106-93-4	1
Chlorobenzene	50	1		ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	49	1		ug/L	1	630-20-6	1
Ethylbenzene	50	1		ug/L	1	100-41-4	1
p,m-Xylene*	100	2		ug/L	1		1
o-Xylene	48	1		ug/L	1	95-47-6	1
Styrene	50	1		ug/L	1	100-42-5	1
Isopropylbenzene	50	5		ug/L	1	98-82-8	1
Bromoform	50	1		ug/L	1	75-25-2	1
1,1,2,2-Tetrachloroethane	50	1		ug/L	1	79-34-5	1
1,2,3-Trichloropropane	50	1		ug/L	1	96-18-4	1
n-Propylbenzene	50	1		ug/L	1	103-65-1	1
Bromobenzene	51	1		ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	50	1		ug/L	1	108-67-8	1
tert-Butylbenzene	50	1		ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	51	1		ug/L	1	95-63-6	1
sec-Butylbenzene	49	1		ug/L	1	135-98-8	1
p-Isopropyltoluene	49	5		ug/L	1	99-87-6	1
1,3-Dichlorobenzene	49	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	50	1		ug/L	1	106-46-7	1
1,2-Dichlorobenzene	49	1		ug/L	1	95-50-1	1
1,2,3-Trimethylbenzene	48	1		ug/L	1	526-73-8	1
n-Butylbenzene	49	1		ug/L	1	104-51-8	1
Hexachloroethane	50	5		ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	51	5		ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	50	5		ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	52	5		ug/L	1	87-61-6	1
Naphthalene	51	5		ug/L	1	91-20-3	1
2-Methylnaphthalene	48	5		ug/L	1	91-57-6	1

1-Spiked at 50 ug/L



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.16

Sample Tag: VAP-P2-NP59_10-15 MSD

Collected Date/Time: 09/26/2023 17:10

Matrix: Groundwater

COC Reference: 164849

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/03/23 10:43	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/04/23 02:36, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	45	1		ug/L	1	123-91-1	1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/23 22:21, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	51	10		ug/L	1	60-29-7	1
Acetone	Not detected	50		ug/L	1	67-64-1	1
Methyl iodide	54	1		ug/L	1	74-88-4	1
Carbon disulfide	51	5		ug/L	1	75-15-0	1
tert-Methyl butyl ether (MTBE)	58	5		ug/L	1	1634-04-4	1
Acrylonitrile	57	2		ug/L	1	107-13-1	1
2-Butanone (MEK)	53	25		ug/L	1	78-93-3	1
Dichlorodifluoromethane	38	5		ug/L	1	75-71-8	1
Chloromethane	42	5		ug/L	1	74-87-3	1
Vinyl chloride	42	1		ug/L	1	75-01-4	1
Bromomethane	43	5		ug/L	1	74-83-9	1
Chloroethane	43	5		ug/L	1	75-00-3	1
Trichlorofluoromethane	45	1		ug/L	1	75-69-4	1
1,1-Dichloroethene	52	1		ug/L	1	75-35-4	1
Methylene chloride	50	5		ug/L	1	75-09-2	1
trans-1,2-Dichloroethene	50	1		ug/L	1	156-60-5	1
1,1-Dichloroethane	59	1		ug/L	1	75-34-3	1
cis-1,2-Dichloroethene	51	1		ug/L	1	156-59-2	1
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	1
Chloroform	48	1		ug/L	1	67-66-3	1
Bromochloromethane	50	1		ug/L	1	74-97-5	1
1,1,1-Trichloroethane	48	1		ug/L	1	71-55-6	1
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	1
2-Hexanone	Not detected	50		ug/L	1	591-78-6	1
Carbon tetrachloride	46	1		ug/L	1	56-23-5	1
Benzene	46	1		ug/L	1	71-43-2	1
1,2-Dichloroethane	43	1		ug/L	1	107-06-2	1
Trichloroethene	47	1		ug/L	1	79-01-6	1
1,2-Dichloropropane	47	1		ug/L	1	78-87-5	1
Bromodichloromethane	45	1		ug/L	1	75-27-4	1
Dibromomethane	49	5		ug/L	1	74-95-3	1
cis-1,3-Dichloropropene	46	1		ug/L	1	10061-01-5	1

1-Spiked at 50 ug/L



Lab Sample ID: S53826.16 (continued)

Sample Tag: VAP-P2-NP59_10-15 MSD

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/23 22:21, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	46	1		ug/L	1	108-88-3	1
trans-1,3-Dichloropropene	44	1		ug/L	1	10061-02-6	1
1,1,2-Trichloroethane	47	1		ug/L	1	79-00-5	1
Tetrachloroethene	48	1		ug/L	1	127-18-4	1
trans-1,4-Dichloro-2-butene	48	1		ug/L	1	110-57-6	1
Dibromochloromethane	48	5		ug/L	1	124-48-1	1
1,2-Dibromoethane	49	1		ug/L	1	106-93-4	1
Chlorobenzene	47	1		ug/L	1	108-90-7	1
1,1,1,2-Tetrachloroethane	47	1		ug/L	1	630-20-6	1
Ethylbenzene	46	1		ug/L	1	100-41-4	1
p,m-Xylene*	93	2		ug/L	1		1
o-Xylene	46	1		ug/L	1	95-47-6	1
Styrene	47	1		ug/L	1	100-42-5	1
Isopropylbenzene	47	5		ug/L	1	98-82-8	1
Bromoform	49	1		ug/L	1	75-25-2	1
1,1,2,2-Tetrachloroethane	49	1		ug/L	1	79-34-5	1
1,2,3-Trichloropropane	49	1		ug/L	1	96-18-4	1
n-Propylbenzene	47	1		ug/L	1	103-65-1	1
Bromobenzene	48	1		ug/L	1	108-86-1	1
1,3,5-Trimethylbenzene	48	1		ug/L	1	108-67-8	1
tert-Butylbenzene	46	1		ug/L	1	98-06-6	1
1,2,4-Trimethylbenzene	48	1		ug/L	1	95-63-6	1
sec-Butylbenzene	46	1		ug/L	1	135-98-8	1
p-Isopropyltoluene	46	5		ug/L	1	99-87-6	1
1,3-Dichlorobenzene	47	1		ug/L	1	541-73-1	1
1,4-Dichlorobenzene	47	1		ug/L	1	106-46-7	1
1,2-Dichlorobenzene	47	1		ug/L	1	95-50-1	1
1,2,3-Trimethylbenzene	46	1		ug/L	1	526-73-8	1
n-Butylbenzene	46	1		ug/L	1	104-51-8	1
Hexachloroethane	49	5		ug/L	1	67-72-1	1
1,2-Dibromo-3-chloropropane	52	5		ug/L	1	96-12-8	1
1,2,4-Trichlorobenzene	48	5		ug/L	1	120-82-1	1
1,2,3-Trichlorobenzene	51	5		ug/L	1	87-61-6	1
Naphthalene	50	5		ug/L	1	91-20-3	1
2-Methylnaphthalene	49	5		ug/L	1	91-57-6	1

1-Spiked at 50 ug/L



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.17

Sample Tag: DUP-02_092623

Collected Date/Time: 09/26/2023 00:01

Matrix: Soil

COC Reference: 164850

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.572/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	90	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 17:34, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	58.1	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/03/23 02:29, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	58.1	60-29-7	
Acetone	Not detected	1,000		ug/kg	58.1	67-64-1	
Methyl iodide	Not detected	100		ug/kg	58.1	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	58.1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	58.1	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	58.1	107-13-1	
2-Butanone (MEK)	Not detected	870		ug/kg	58.1	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	58.1	75-71-8	
Chloromethane	Not detected	300		ug/kg	58.1	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	58.1	75-01-4	
Bromomethane	Not detected	200		ug/kg	58.1	74-83-9	
Chloroethane	Not detected	300		ug/kg	58.1	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	58.1	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	58.1	75-35-4	
Methylene chloride	Not detected	100		ug/kg	58.1	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	58.1	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	58.1	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	58.1	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	58.1	109-99-9	
Chloroform	Not detected	60		ug/kg	58.1	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	58.1	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	58.1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	58.1	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	58.1	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	58.1	56-23-5	
Benzene	Not detected	60		ug/kg	58.1	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	58.1	107-06-2	

Lab Sample ID: S53826.17 (continued)

Sample Tag: DUP-02_092623

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/03/23 02:29, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	58.1	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	58.1	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	58.1	75-27-4	
Dibromomethane	Not detected	300		ug/kg	58.1	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	58.1	10061-01-5	
Toluene	Not detected	60		ug/kg	58.1	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	58.1	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	58.1	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	58.1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	58.1	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	58.1	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	58.1	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	58.1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	58.1	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	58.1	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	58.1		
o-Xylene	Not detected	60		ug/kg	58.1	95-47-6	
Styrene	Not detected	60		ug/kg	58.1	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	58.1	98-82-8	
Bromoform	Not detected	100		ug/kg	58.1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	58.1	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	58.1	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	58.1	103-65-1	
Bromobenzene	Not detected	100		ug/kg	58.1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	58.1	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	58.1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	58.1	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	58.1	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	58.1	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	58.1	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	58.1	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	58.1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	58.1	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	58.1	104-51-8	
Hexachloroethane	Not detected	300		ug/kg	58.1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	58.1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	380		ug/kg	58.1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	380		ug/kg	58.1	87-61-6	
Naphthalene	Not detected	300		ug/kg	58.1	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	58.1	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.18

Sample Tag: VAP-P2-NP59_20-23.5

Collected Date/Time: 09/26/2023 18:15

Matrix: Groundwater

COC Reference: 164850

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/23 12:06	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/04/23 01:12, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	5	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/23 18:30, Analyst: NDK

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

Lab Sample ID: S53826.18 (continued)

Sample Tag: VAP-P2-NP59_20-23.5

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/23 18:30, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.19

Sample Tag: VAP-P2-NT58_1-2

Collected Date/Time: 09/27/2023 09:15

Matrix: Soil

COC Reference: 164850

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.662/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	89	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 17:54, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	58.9	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/03/23 02:53, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	58.9	60-29-7	
Acetone	Not detected	1,000		ug/kg	58.9	67-64-1	
Methyl iodide	Not detected	100		ug/kg	58.9	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	58.9	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	58.9	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	58.9	107-13-1	
2-Butanone (MEK)	Not detected	880		ug/kg	58.9	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	58.9	75-71-8	
Chloromethane	Not detected	300		ug/kg	58.9	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	58.9	75-01-4	
Bromomethane	Not detected	200		ug/kg	58.9	74-83-9	
Chloroethane	Not detected	300		ug/kg	58.9	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	58.9	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	58.9	75-35-4	
Methylene chloride	Not detected	100		ug/kg	58.9	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	58.9	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	58.9	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	58.9	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	58.9	109-99-9	
Chloroform	Not detected	60		ug/kg	58.9	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	58.9	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	58.9	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	58.9	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	58.9	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	58.9	56-23-5	
Benzene	Not detected	60		ug/kg	58.9	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	58.9	107-06-2	

Lab Sample ID: S53826.19 (continued)

Sample Tag: VAP-P2-NT58_1-2

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/03/23 02:53, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	58.9	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	58.9	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	58.9	75-27-4	
Dibromomethane	Not detected	300		ug/kg	58.9	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	58.9	10061-01-5	
Toluene	Not detected	60		ug/kg	58.9	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	58.9	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	58.9	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	58.9	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	58.9	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	58.9	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	58.9	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	58.9	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	58.9	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	58.9	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	58.9		
o-Xylene	Not detected	60		ug/kg	58.9	95-47-6	
Styrene	Not detected	60		ug/kg	58.9	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	58.9	98-82-8	
Bromoform	Not detected	100		ug/kg	58.9	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	58.9	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	58.9	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	58.9	103-65-1	
Bromobenzene	Not detected	100		ug/kg	58.9	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	58.9	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	58.9	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	58.9	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	58.9	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	58.9	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	58.9	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	58.9	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	58.9	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	58.9	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	58.9	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	58.9	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	58.9	96-12-8	
1,2,4-Trichlorobenzene	Not detected	390		ug/kg	58.9	120-82-1	
1,2,3-Trichlorobenzene	Not detected	390		ug/kg	58.9	87-61-6	
Naphthalene	Not detected	300		ug/kg	58.9	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	58.9	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.20

Sample Tag: VAP-P2-NT58_3-4

Collected Date/Time: 09/27/2023 09:20

Matrix: Soil

COC Reference: 164850

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	9.978/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 18:15, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	70		ug/kg	65.1	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/03/23 03:17, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	65.1	60-29-7	
Acetone	Not detected	1,000		ug/kg	65.1	67-64-1	
Methyl iodide	Not detected	100		ug/kg	65.1	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	65.1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	65.1	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	65.1	107-13-1	
2-Butanone (MEK)	Not detected	980		ug/kg	65.1	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	65.1	75-71-8	
Chloromethane	Not detected	300		ug/kg	65.1	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	65.1	75-01-4	
Bromomethane	Not detected	300		ug/kg	65.1	74-83-9	
Chloroethane	Not detected	300		ug/kg	65.1	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	65.1	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	65.1	75-35-4	
Methylene chloride	Not detected	100		ug/kg	65.1	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	65.1	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	65.1	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	65.1	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	65.1	109-99-9	
Chloroform	Not detected	70		ug/kg	65.1	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	65.1	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	65.1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	65.1	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	65.1	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	65.1	56-23-5	
Benzene	Not detected	70		ug/kg	65.1	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	65.1	107-06-2	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.20 (continued)

Sample Tag: VAP-P2-NT58_3-4

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/03/23 03:17, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	70		ug/kg	65.1	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	65.1	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	65.1	75-27-4	
Dibromomethane	Not detected	300		ug/kg	65.1	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	65.1	10061-01-5	
Toluene	Not detected	70		ug/kg	65.1	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	65.1	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	65.1	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	65.1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	65.1	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	65.1	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	65.1	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	65.1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	65.1	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	65.1	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	65.1		
o-Xylene	Not detected	70		ug/kg	65.1	95-47-6	
Styrene	Not detected	70		ug/kg	65.1	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	65.1	98-82-8	
Bromoform	Not detected	100		ug/kg	65.1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	65.1	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	65.1	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	65.1	103-65-1	
Bromobenzene	Not detected	100		ug/kg	65.1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	65.1	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	65.1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	65.1	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	65.1	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	65.1	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	65.1	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	65.1	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	65.1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	65.1	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	65.1	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	65.1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	65.1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	430		ug/kg	65.1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	430		ug/kg	65.1	87-61-6	
Naphthalene	Not detected	300		ug/kg	65.1	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	65.1	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.21

Sample Tag: VAP-P2-NT58_6-7

Collected Date/Time: 09/27/2023 09:25

Matrix: Soil

COC Reference: 164850

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	10.423/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	89	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 18:36, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	60.1	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/03/23 03:41, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	60.1	60-29-7	
Acetone	Not detected	1,000		ug/kg	60.1	67-64-1	
Methyl iodide	Not detected	100		ug/kg	60.1	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	60.1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	60.1	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	60.1	107-13-1	
2-Butanone (MEK)	Not detected	900		ug/kg	60.1	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	60.1	75-71-8	
Chloromethane	Not detected	300		ug/kg	60.1	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	60.1	75-01-4	
Bromomethane	Not detected	200		ug/kg	60.1	74-83-9	
Chloroethane	Not detected	300		ug/kg	60.1	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	60.1	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	60.1	75-35-4	
Methylene chloride	Not detected	100		ug/kg	60.1	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	60.1	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	60.1	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	60.1	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	60.1	109-99-9	
Chloroform	Not detected	60		ug/kg	60.1	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	60.1	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	60.1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	60.1	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	60.1	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	60.1	56-23-5	
Benzene	Not detected	60		ug/kg	60.1	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	60.1	107-06-2	

Lab Sample ID: S53826.21 (continued)

Sample Tag: VAP-P2-NT58_6-7

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/03/23 03:41, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	60.1	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	60.1	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	60.1	75-27-4	
Dibromomethane	Not detected	300		ug/kg	60.1	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	60.1	10061-01-5	
Toluene	Not detected	60		ug/kg	60.1	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	60.1	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	60.1	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	60.1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	60.1	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	60.1	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	60.1	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	60.1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	60.1	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	60.1	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	60.1		
o-Xylene	Not detected	60		ug/kg	60.1	95-47-6	
Styrene	Not detected	60		ug/kg	60.1	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	60.1	98-82-8	
Bromoform	Not detected	100		ug/kg	60.1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	60.1	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	60.1	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	60.1	103-65-1	
Bromobenzene	Not detected	100		ug/kg	60.1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	60.1	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	60.1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	60.1	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	60.1	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	60.1	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	60.1	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	60.1	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	60.1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	60.1	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	60.1	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	60.1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	60.1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	400		ug/kg	60.1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	400		ug/kg	60.1	87-61-6	
Naphthalene	Not detected	300		ug/kg	60.1	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	60.1	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.22

Sample Tag: VAP-P2-NT58_9-10

Collected Date/Time: 09/27/2023 09:30

Matrix: Soil

COC Reference: 164850

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	9.5	IR
1	4oz Glass	None	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample wt. (g) / Methanol (ml)*	9.487/10	SW5035A	09/28/23 12:20	ACK	

Inorganics

Method: SM2540B, Run Date: 09/28/23 12:57, Analyst: MAM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	94	1		%	1		

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 18:57, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	60		ug/kg	59.3	123-91-1	

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/03/23 04:05, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	59.3	60-29-7	
Acetone	Not detected	1,000		ug/kg	59.3	67-64-1	
Methyl iodide	Not detected	100		ug/kg	59.3	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	59.3	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	59.3	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	59.3	107-13-1	
2-Butanone (MEK)	Not detected	890		ug/kg	59.3	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	59.3	75-71-8	
Chloromethane	Not detected	300		ug/kg	59.3	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	59.3	75-01-4	
Bromomethane	Not detected	200		ug/kg	59.3	74-83-9	
Chloroethane	Not detected	300		ug/kg	59.3	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	59.3	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	59.3	75-35-4	
Methylene chloride	Not detected	100		ug/kg	59.3	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	59.3	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	59.3	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	59.3	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	59.3	109-99-9	
Chloroform	Not detected	60		ug/kg	59.3	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	59.3	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	59.3	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	59.3	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	59.3	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	59.3	56-23-5	
Benzene	Not detected	60		ug/kg	59.3	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	59.3	107-06-2	

Lab Sample ID: S53826.22 (continued)

Sample Tag: VAP-P2-NT58_9-10

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 10/03/23 04:05, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	59.3	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	59.3	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	59.3	75-27-4	
Dibromomethane	Not detected	300		ug/kg	59.3	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	59.3	10061-01-5	
Toluene	Not detected	60		ug/kg	59.3	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	59.3	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	59.3	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	59.3	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	59.3	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	59.3	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	59.3	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	59.3	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	59.3	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	59.3	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	59.3		
o-Xylene	Not detected	60		ug/kg	59.3	95-47-6	
Styrene	Not detected	60		ug/kg	59.3	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	59.3	98-82-8	
Bromoform	Not detected	100		ug/kg	59.3	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	59.3	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	59.3	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	59.3	103-65-1	
Bromobenzene	Not detected	100		ug/kg	59.3	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	59.3	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	59.3	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	59.3	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	59.3	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	59.3	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	59.3	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	59.3	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	59.3	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	59.3	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	59.3	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	59.3	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	59.3	96-12-8	
1,2,4-Trichlorobenzene	Not detected	390		ug/kg	59.3	120-82-1	
1,2,3-Trichlorobenzene	Not detected	390		ug/kg	59.3	87-61-6	
Naphthalene	Not detected	300		ug/kg	59.3	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	59.3	91-57-6	

M-Result reported to MDL not RDL



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.23

Sample Tag: VAP-P2-NT58_10-15

Collected Date/Time: 09/27/2023 09:35

Matrix: Groundwater

COC Reference: 164850

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/23 12:06	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/04/23 01:33, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	2	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/23 18:56, Analyst: NDK

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

Lab Sample ID: S53826.23 (continued)

Sample Tag: VAP-P2-NT58_10-15

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/02/23 18:56, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.24

Sample Tag: VAP-P2-NT58_18-21.5

Collected Date/Time: 09/27/2023 10:45

Matrix: Groundwater

COC Reference: 164850

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/02/23 12:06	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/04/23 01:54, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	2	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/29/23 19:27, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	19	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	

Lab Sample ID: S53826.24 (continued)

Sample Tag: VAP-P2-NT58_18-21.5

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 09/29/23 19:27, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.25

Sample Tag: EB-01_092723

Collected Date/Time: 09/27/2023 11:00

Matrix: Groundwater

COC Reference: 164850

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/03/23 10:43	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 23:29, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/03/23 15:58, Analyst: NDK

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

Lab Sample ID: S53826.25 (continued)

Sample Tag: EB-01_092723

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/03/23 15:58, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Revised Report

Lab Sample ID: S53826.26

Sample Tag: Trip Blank

Collected Date/Time: 09/26/2023 00:01

Matrix: Groundwater

COC Reference: 164850

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	9.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/03/23 10:43	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/03/23 23:08, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	Not detected	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/03/23 15:32, Analyst: NDK

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

Lab Sample ID: S53826.26 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/03/23 15:32, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Quality Control Report

Report ID: S53826.01(02)+QC01
Generated on 10/06/2023

Report to

Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

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

Phone: O:248-809-4013 C:947-777-5215 FAX:

Report Summary

Lab Sample ID(s): S53826.01-S53826.26
Project: 30171056.04100 / RACER Lansing
Submitted Date/Time: 09/27/2023 12:15
Sampled by: Austin Westhuis
P.O. #: 30171056.04100

QC Report Sections

Cover Page (Page 62)
Analysis Summary (Pages 63-88)
Prep Batch Summary (Pages 89-91)
Surrogates per Lab Sample (Pages 92-113)
Surrogates per QC Sample (Pages 114-124)
Internal Standards per Lab Sample (Pages 125-146)
Internal Standards per QC Sample (Pages 147-157)
Batch QC Results (Pages 158-213)

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: S53826.01

Sample Tag: VAP-P2-NL58_1-2

Collected Date/Time: 09/26/2023 14:15

Matrix: Soil

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928A	TS230928A	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 14:47	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/02/23 18:56	231002A3	VF231002S2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.02

Sample Tag: VAP-P2-NL58_3.5-4.5

Collected Date/Time: 09/26/2023 14:20

Matrix: Soil

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928A	TS230928A	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 15:07	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/02/23 19:19	231002A3	VF231002S2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.03

Sample Tag: VAP-P2-NL58_7-8

Collected Date/Time: 09/26/2023 14:25

Matrix: Soil

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928A	TS230928A	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 15:28	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/02/23 19:43	231002A3	VF231002S2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.04

Sample Tag: VAP-P2-NL58_10-11

Collected Date/Time: 09/26/2023 14:30

Matrix: Soil

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928A	TS230928A	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 15:49	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/02/23 20:06	231002A3	VF231002S2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.05

Sample Tag: VAP-P2-NL58_10-15

Collected Date/Time: 09/26/2023 14:45

Matrix: Groundwater

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 23:49	231003B9	VS231003W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	09/29/23 17:49	230929A9	VF230929W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.06

Sample Tag: VAP-P2-NL58_21-24.5

Collected Date/Time: 09/26/2023 16:00

Matrix: Groundwater

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/04/23 00:10	231003B9	VS231003W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	09/29/23 18:08	230929A9	VF230929W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List (Replicate 01)	SW5030C/8260C	10/06/23 05:48	231005B7	VF231005W4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.07

Sample Tag: DUP-01_092623

Collected Date/Time: 09/26/2023 00:01

Matrix: Groundwater

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/04/23 00:31	231003B9	VS231003W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	09/29/23 18:28	230929A9	VF230929W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List (Replicate 01)	SW5030C/8260C	10/02/23 20:38	231002A7	VF231002W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53826.08

Sample Tag: VAP-P2-NL59_1-2

Collected Date/Time: 09/26/2023 16:40

Matrix: Soil

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928B	TS230928B	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 16:10	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/02/23 20:30	231002A3	VF231002S2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.09

Sample Tag: VAP-P2-NL59_3-4

Collected Date/Time: 09/26/2023 16:45

Matrix: Soil

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928B	TS230928B	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 16:31	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/05/23 15:18	231005A5	VF231005S1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53826.10

Sample Tag: VAP-P2-NL59_3-4 MS

Collected Date/Time: 09/26/2023 16:45

Matrix: Soil

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Total Solids	SM2540B	09/28/23 12:57	TS230928B	TS230928B	No	BLK/LCS/DUP
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	10/03/23 19:18	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/05/23 13:44	231005A5	VF231005S1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53826.11

Sample Tag: VAP-P2-NL59_3-4 MSD

Collected Date/Time: 09/26/2023 16:45

Matrix: Soil

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Total Solids	SM2540B	09/28/23 12:57	TS230928B	TS230928B	No	BLK/LCS/DUP
<i>Organics - Volatiles</i>						
1,4-Dioxane	SW8260B - SIM	10/03/23 19:39	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/05/23 14:07	231005A5	VF231005S1	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53826.12

Sample Tag: VAP-P2-NL59_6-7

Collected Date/Time: 09/26/2023 16:50

Matrix: Soil

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928B	TS230928B	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 16:52	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/02/23 22:05	231002A3	VF231002S2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.13

Sample Tag: VAP-P2-NL59_9-10

Collected Date/Time: 09/26/2023 16:55

Matrix: Soil

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928B	TS230928B	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 17:13	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/02/23 22:30	231002A3	VF231002S2	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.14

Sample Tag: VAP-P2-NL59_10-15

Collected Date/Time: 09/26/2023 17:10

Matrix: Groundwater

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/04/23 00:51	231003B9	VS231003W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	10/02/23 18:04	231002A7	VF231002W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53826.15

Sample Tag: VAP-P2-NL59_10-15 MS

Collected Date/Time: 09/26/2023 17:10

Matrix: Groundwater

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/04/23 02:15	231003B9	VS231003W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	10/02/23 21:55	231002A7	VF231002W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53826.16

Sample Tag: VAP-P2-NL59_10-15 MSD

Collected Date/Time: 09/26/2023 17:10

Matrix: Groundwater

COC Reference: 164849

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/04/23 02:36	231003B9	VS231003W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	10/02/23 22:21	231002A7	VF231002W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53826.17

Sample Tag: DUP-02_092623

Collected Date/Time: 09/26/2023 00:01

Matrix: Soil

COC Reference: 164850

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928B	TS230928B	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 17:34	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/03/23 02:29	231002B3	VF231002S4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.18

Sample Tag: VAP-P2-NL59_20-23.5

Collected Date/Time: 09/26/2023 18:15

Matrix: Groundwater

COC Reference: 164850

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/04/23 01:12	231003B9	VS231003W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	10/02/23 18:30	231002A7	VF231002W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53826.19

Sample Tag: VAP-P2-NT58_1-2

Collected Date/Time: 09/27/2023 09:15

Matrix: Soil

COC Reference: 164850

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928B	TS230928B	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 17:54	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/03/23 02:53	231002B3	VF231002S4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.20

Sample Tag: VAP-P2-NT58_3-4

Collected Date/Time: 09/27/2023 09:20

Matrix: Soil

COC Reference: 164850

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928B	TS230928B	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 18:15	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/03/23 03:17	231002B3	VF231002S4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.21

Sample Tag: VAP-P2-NT58_6-7

Collected Date/Time: 09/27/2023 09:25

Matrix: Soil

COC Reference: 164850

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928B	TS230928B	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 18:36	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/03/23 03:41	231002B3	VF231002S4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.22

Sample Tag: VAP-P2-NT58_9-10

Collected Date/Time: 09/27/2023 09:30

Matrix: Soil

COC Reference: 164850

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Total Solids	SM2540B	09/28/23 12:57	TS230928B	TS230928B	No	BLK/LCS/DUP
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 18:57	231003A9	VS231003S1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics 5035	SW5035A/8260C	10/03/23 04:05	231002B3	VF231002S4	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.23

Sample Tag: VAP-P2-NT58_10-15

Collected Date/Time: 09/27/2023 09:35

Matrix: Groundwater

COC Reference: 164850

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/04/23 01:33	231003B9	VS231003W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	10/02/23 18:56	231002A7	VF231002W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53826.24

Sample Tag: VAP-P2-NT58_18-21.5

Collected Date/Time: 09/27/2023 10:45

Matrix: Groundwater

COC Reference: 164850

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/04/23 01:54	231003B9	VS231003W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	09/29/23 19:27	230929A9	VF230929W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S53826.25

Sample Tag: EB-01_092723

Collected Date/Time: 09/27/2023 11:00

Matrix: Groundwater

COC Reference: 164850

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 23:29	231003B9	VS231003W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	10/03/23 15:58	231003A7	VF231003W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Analysis Summary

Lab Sample ID: S53826.26

Sample Tag: Trip Blank

Collected Date/Time: 09/26/2023 00:01

Matrix: Groundwater

COC Reference: 164850

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/03/23 23:08	231003B9	VS231003W1	Yes	BLK/LCS/LCSD/MS/MS
Volatile Organics - DEQ List	SW5030C/8260C	10/03/23 15:32	231003A7	VF231003W2	Yes	BLK/LCS/LCSD/MS/MS

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: TS230928A

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.01	Total Solids	SM2540B	09/28/23 12:57	TS230928A
S53826.02	Total Solids	SM2540B	09/28/23 12:57	TS230928A
S53826.03	Total Solids	SM2540B	09/28/23 12:57	TS230928A
S53826.04	Total Solids	SM2540B	09/28/23 12:57	TS230928A

Inorganics, Prep Batch ID: TS230928B

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.08	Total Solids	SM2540B	09/28/23 12:57	TS230928B
S53826.09	Total Solids	SM2540B	09/28/23 12:57	TS230928B
S53826.10	Total Solids	SM2540B	09/28/23 12:57	TS230928B
S53826.11	Total Solids	SM2540B	09/28/23 12:57	TS230928B
S53826.12	Total Solids	SM2540B	09/28/23 12:57	TS230928B
S53826.13	Total Solids	SM2540B	09/28/23 12:57	TS230928B
S53826.17	Total Solids	SM2540B	09/28/23 12:57	TS230928B
S53826.19	Total Solids	SM2540B	09/28/23 12:57	TS230928B
S53826.20	Total Solids	SM2540B	09/28/23 12:57	TS230928B
S53826.21	Total Solids	SM2540B	09/28/23 12:57	TS230928B
S53826.22	Total Solids	SM2540B	09/28/23 12:57	TS230928B

Organics - Volatiles, Prep Batch ID: VF230929W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.05	Volatile Organics - DEQ List	SW5030C/8260C	09/29/23 17:49	230929A9
S53826.06	Volatile Organics - DEQ List	SW5030C/8260C	09/29/23 18:08	230929A9
S53826.07	Volatile Organics - DEQ List	SW5030C/8260C	09/29/23 18:28	230929A9
S53826.24	Volatile Organics - DEQ List	SW5030C/8260C	09/29/23 19:27	230929A9

Organics - Volatiles, Prep Batch ID: VF231002S2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.01	Volatile Organics 5035	SW5035A/8260C	10/02/23 18:56	231002A3
S53826.02	Volatile Organics 5035	SW5035A/8260C	10/02/23 19:19	231002A3
S53826.03	Volatile Organics 5035	SW5035A/8260C	10/02/23 19:43	231002A3
S53826.04	Volatile Organics 5035	SW5035A/8260C	10/02/23 20:06	231002A3
S53826.08	Volatile Organics 5035	SW5035A/8260C	10/02/23 20:30	231002A3
S53826.12	Volatile Organics 5035	SW5035A/8260C	10/02/23 22:05	231002A3
S53826.13	Volatile Organics 5035	SW5035A/8260C	10/02/23 22:30	231002A3

Organics - Volatiles, Prep Batch ID: VF231002S4

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.17	Volatile Organics 5035	SW5035A/8260C	10/03/23 02:29	231002B3
S53826.19	Volatile Organics 5035	SW5035A/8260C	10/03/23 02:53	231002B3
S53826.20	Volatile Organics 5035	SW5035A/8260C	10/03/23 03:17	231002B3
S53826.21	Volatile Organics 5035	SW5035A/8260C	10/03/23 03:41	231002B3
S53826.22	Volatile Organics 5035	SW5035A/8260C	10/03/23 04:05	231002B3

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF231002W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.07	Volatile Organics - DEQ List (Replicate 01)	SW5030C/8260C	10/02/23 20:38	231002A7
S53826.14	Volatile Organics - DEQ List	SW5030C/8260C	10/02/23 18:04	231002A7
S53826.15	Volatile Organics - DEQ List	SW5030C/8260C	10/02/23 21:55	231002A7
S53826.16	Volatile Organics - DEQ List	SW5030C/8260C	10/02/23 22:21	231002A7
S53826.18	Volatile Organics - DEQ List	SW5030C/8260C	10/02/23 18:30	231002A7
S53826.23	Volatile Organics - DEQ List	SW5030C/8260C	10/02/23 18:56	231002A7

Organics - Volatiles, Prep Batch ID: VF231003W2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.25	Volatile Organics - DEQ List	SW5030C/8260C	10/03/23 15:58	231003A7
S53826.26	Volatile Organics - DEQ List	SW5030C/8260C	10/03/23 15:32	231003A7

Organics - Volatiles, Prep Batch ID: VF231005S1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.09	Volatile Organics 5035	SW5035A/8260C	10/05/23 15:18	231005A5
S53826.10	Volatile Organics 5035	SW5035A/8260C	10/05/23 13:44	231005A5
S53826.11	Volatile Organics 5035	SW5035A/8260C	10/05/23 14:07	231005A5

Organics - Volatiles, Prep Batch ID: VF231005W4

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.06	Volatile Organics - DEQ List (Replicate 01)	SW5030C/8260C	10/06/23 05:48	231005B7

Organics - Volatiles, Prep Batch ID: VS231003S1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.01	1,4-Dioxane	SW8260B - SIM	10/03/23 14:47	231003A9
S53826.02	1,4-Dioxane	SW8260B - SIM	10/03/23 15:07	231003A9
S53826.03	1,4-Dioxane	SW8260B - SIM	10/03/23 15:28	231003A9
S53826.04	1,4-Dioxane	SW8260B - SIM	10/03/23 15:49	231003A9
S53826.08	1,4-Dioxane	SW8260B - SIM	10/03/23 16:10	231003A9
S53826.09	1,4-Dioxane	SW8260B - SIM	10/03/23 16:31	231003A9
S53826.10	1,4-Dioxane	SW8260B - SIM	10/03/23 19:18	231003A9
S53826.11	1,4-Dioxane	SW8260B - SIM	10/03/23 19:39	231003A9
S53826.12	1,4-Dioxane	SW8260B - SIM	10/03/23 16:52	231003A9
S53826.13	1,4-Dioxane	SW8260B - SIM	10/03/23 17:13	231003A9
S53826.17	1,4-Dioxane	SW8260B - SIM	10/03/23 17:34	231003A9
S53826.19	1,4-Dioxane	SW8260B - SIM	10/03/23 17:54	231003A9
S53826.20	1,4-Dioxane	SW8260B - SIM	10/03/23 18:15	231003A9
S53826.21	1,4-Dioxane	SW8260B - SIM	10/03/23 18:36	231003A9
S53826.22	1,4-Dioxane	SW8260B - SIM	10/03/23 18:57	231003A9

Organics - Volatiles, Prep Batch ID: VS231003W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.05	1,4-Dioxane	SW8260B - SIM	10/03/23 23:49	231003B9
S53826.06	1,4-Dioxane	SW8260B - SIM	10/04/23 00:10	231003B9

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VS231003W1 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S53826.07	1,4-Dioxane	SW8260B - SIM	10/04/23 00:31	231003B9
S53826.14	1,4-Dioxane	SW8260B - SIM	10/04/23 00:51	231003B9
S53826.15	1,4-Dioxane	SW8260B - SIM	10/04/23 02:15	231003B9
S53826.16	1,4-Dioxane	SW8260B - SIM	10/04/23 02:36	231003B9
S53826.18	1,4-Dioxane	SW8260B - SIM	10/04/23 01:12	231003B9
S53826.23	1,4-Dioxane	SW8260B - SIM	10/04/23 01:33	231003B9
S53826.24	1,4-Dioxane	SW8260B - SIM	10/04/23 01:54	231003B9
S53826.25	1,4-Dioxane	SW8260B - SIM	10/03/23 23:29	231003B9
S53826.26	1,4-Dioxane	SW8260B - SIM	10/03/23 23:08	231003B9

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.01

Sample Tag: VAP-P2-NL58_1-2

Collected Date/Time: 09/26/2023 14:15

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 18:56, Matrix: SO, Dilution: 57.7

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.9	81.0	124.0
1,2-Dichloroethane-D4		112.1	71.0	124.0
Toluene-D8		99.9	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.02

Sample Tag: VAP-P2-NL58_3.5-4.5

Collected Date/Time: 09/26/2023 14:20

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 19:19, Matrix: SO, Dilution: 62.7

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.3	81.0	124.0
1,2-Dichloroethane-D4		109.2	71.0	124.0
Toluene-D8		100.8	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.03

Sample Tag: VAP-P2-NL58_7-8

Collected Date/Time: 09/26/2023 14:25

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 19:43, Matrix: SO, Dilution: 73.3

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.1	81.0	124.0
1,2-Dichloroethane-D4		109.4	71.0	124.0
Toluene-D8		101.3	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.04

Sample Tag: VAP-P2-NL58_10-11

Collected Date/Time: 09/26/2023 14:30

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 20:06, Matrix: SO, Dilution: 63.5

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.5	81.0	124.0
1,2-Dichloroethane-D4		109.3	71.0	124.0
Toluene-D8		101.4	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.05

Sample Tag: VAP-P2-NL58_10-15

Collected Date/Time: 09/26/2023 14:45

Matrix: Groundwater

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230929A9, Run Date: 09/29/2023 17:49, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		96.6	80.0	124.0
1,2-Dichloroethane-D4		107.5	72.0	125.0
Toluene-D8		102.6	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.06

Sample Tag: VAP-P2-NL58_21-24.5

Collected Date/Time: 09/26/2023 16:00

Matrix: Groundwater

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230929A9, Run Date: 09/29/2023 18:08, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		96.8	80.0	124.0
1,2-Dichloroethane-D4		106.1	72.0	125.0
Toluene-D8		101.8	89.0	112.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List (Replicate 01)

Run in Batch: 231005B7, Run Date: 10/06/2023 05:48, Matrix: WW, Dilution: 10

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.9	80.0	124.0
1,2-Dichloroethane-D4		88.7	72.0	125.0
Toluene-D8		95.3	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.07

Sample Tag: DUP-01_092623

Collected Date/Time: 09/26/2023 00:01

Matrix: Groundwater

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230929A9, Run Date: 09/29/2023 18:28, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.6	80.0	124.0
1,2-Dichloroethane-D4		107.5	72.0	125.0
Toluene-D8		102.3	89.0	112.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List (Replicate 01)

Run in Batch: 231002A7, Run Date: 10/02/2023 20:38, Matrix: WW, Dilution: 10

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.1	80.0	124.0
1,2-Dichloroethane-D4		81.3	72.0	125.0
Toluene-D8		96.2	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.08

Sample Tag: VAP-P2-NL59_1-2

Collected Date/Time: 09/26/2023 16:40

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 20:30, Matrix: SO, Dilution: 63

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.3	81.0	124.0
1,2-Dichloroethane-D4		108.4	71.0	124.0
Toluene-D8		101.6	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.09

Sample Tag: VAP-P2-NL59_3-4

Collected Date/Time: 09/26/2023 16:45

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231005A5, Run Date: 10/05/2023 15:18, Matrix: SO, Dilution: 63.5

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.9	81.0	124.0
1,2-Dichloroethane-D4		93.2	71.0	124.0
Toluene-D8		100.4	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.12

Sample Tag: VAP-P2-NL59_6-7

Collected Date/Time: 09/26/2023 16:50

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 22:05, Matrix: SO, Dilution: 61.7

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.0	81.0	124.0
1,2-Dichloroethane-D4		107.6	71.0	124.0
Toluene-D8		101.3	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.13

Sample Tag: VAP-P2-NL59_9-10

Collected Date/Time: 09/26/2023 16:55

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 22:30, Matrix: SO, Dilution: 57.4

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.5	81.0	124.0
1,2-Dichloroethane-D4		108.9	71.0	124.0
Toluene-D8		100.9	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.14

Sample Tag: VAP-P2-NL59_10-15

Collected Date/Time: 09/26/2023 17:10

Matrix: Groundwater

COC Reference: 164849

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231002A7, Run Date: 10/02/2023 18:04, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.6	80.0	124.0
1,2-Dichloroethane-D4		81.5	72.0	125.0
Toluene-D8		96.4	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.17

Sample Tag: DUP-02_092623

Collected Date/Time: 09/26/2023 00:01

Matrix: Soil

COC Reference: 164850

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002B3, Run Date: 10/03/2023 02:29, Matrix: SO, Dilution: 58.1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.4	81.0	124.0
1,2-Dichloroethane-D4		105.0	71.0	124.0
Toluene-D8		101.0	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.18

Sample Tag: VAP-P2-NL59_20-23.5

Collected Date/Time: 09/26/2023 18:15

Matrix: Groundwater

COC Reference: 164850

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231002A7, Run Date: 10/02/2023 18:30, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.6	80.0	124.0
1,2-Dichloroethane-D4		83.8	72.0	125.0
Toluene-D8		96.5	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.19

Sample Tag: VAP-P2-NT58_1-2

Collected Date/Time: 09/27/2023 09:15

Matrix: Soil

COC Reference: 164850

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002B3, Run Date: 10/03/2023 02:53, Matrix: SO, Dilution: 58.9

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		96.5	81.0	124.0
1,2-Dichloroethane-D4		104.6	71.0	124.0
Toluene-D8		101.6	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.20

Sample Tag: VAP-P2-NT58_3-4

Collected Date/Time: 09/27/2023 09:20

Matrix: Soil

COC Reference: 164850

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002B3, Run Date: 10/03/2023 03:17, Matrix: SO, Dilution: 65.1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.4	81.0	124.0
1,2-Dichloroethane-D4		105.2	71.0	124.0
Toluene-D8		101.5	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.21

Sample Tag: VAP-P2-NT58_6-7

Collected Date/Time: 09/27/2023 09:25

Matrix: Soil

COC Reference: 164850

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002B3, Run Date: 10/03/2023 03:41, Matrix: SO, Dilution: 60.1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.7	81.0	124.0
1,2-Dichloroethane-D4		105.2	71.0	124.0
Toluene-D8		100.3	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: **S53826.22**

Sample Tag: VAP-P2-NT58_9-10

Collected Date/Time: 09/27/2023 09:30

Matrix: Soil

COC Reference: 164850

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002B3, Run Date: 10/03/2023 04:05, Matrix: SO, Dilution: 59.3

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.0	81.0	124.0
1,2-Dichloroethane-D4		104.2	71.0	124.0
Toluene-D8		100.3	83.0	120.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.23

Sample Tag: VAP-P2-NT58_10-15

Collected Date/Time: 09/27/2023 09:35

Matrix: Groundwater

COC Reference: 164850

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231002A7, Run Date: 10/02/2023 18:56, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.9	80.0	124.0
1,2-Dichloroethane-D4		81.6	72.0	125.0
Toluene-D8		97.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.24

Sample Tag: VAP-P2-NT58_18-21.5

Collected Date/Time: 09/27/2023 10:45

Matrix: Groundwater

COC Reference: 164850

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230929A9, Run Date: 09/29/2023 19:27, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.2	80.0	124.0
1,2-Dichloroethane-D4		103.1	72.0	125.0
Toluene-D8		101.9	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.25

Sample Tag: EB-01_092723

Collected Date/Time: 09/27/2023 11:00

Matrix: Groundwater

COC Reference: 164850

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231003A7, Run Date: 10/03/2023 15:58, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		98.7	80.0	124.0
1,2-Dichloroethane-D4		79.4	72.0	125.0
Toluene-D8		96.8	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S53826.26

Sample Tag: Trip Blank

Collected Date/Time: 09/26/2023 00:01

Matrix: Groundwater

COC Reference: 164850

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231003A7, Run Date: 10/03/2023 15:32, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.1	80.0	124.0
1,2-Dichloroethane-D4		82.6	72.0	125.0
Toluene-D8		96.8	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF230929W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230929A9.BLKW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 14:12, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		96.8	80.0	124.0
1,2-Dichloroethane-D4		101.0	72.0	125.0
Toluene-D8		100.8	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230929A9.LCSW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 12:54, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.8	80.0	124.0
1,2-Dichloroethane-D4		97.5	72.0	125.0
Toluene-D8		101.0	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230929A9.LCSDW29A, Parent Sample ID: 230929A9.LCSW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 13:14, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.2	80.0	124.0
1,2-Dichloroethane-D4		95.3	72.0	125.0
Toluene-D8		101.5	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF231002S2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 231002A3.BLKS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 14:24, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.2	81.0	124.0
1,2-Dichloroethane-D4		101.1	71.0	124.0
Toluene-D8		100.8	83.0	120.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231002A3.LCSS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 12:23, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.6	81.0	124.0
1,2-Dichloroethane-D4		100.5	71.0	124.0
Toluene-D8		100.8	83.0	120.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231002A3.LCSDS02A, Parent Sample ID: 231002A3.LCSS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 12:48, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.7	81.0	124.0
1,2-Dichloroethane-D4		101.2	71.0	124.0
Toluene-D8		100.5	83.0	120.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF231002S4

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 231002B3.BLKS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 02:05, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		96.0	81.0	124.0
1,2-Dichloroethane-D4		103.0	71.0	124.0
Toluene-D8		101.5	83.0	120.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231002B3.LCSS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 00:05, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.6	81.0	124.0
1,2-Dichloroethane-D4		105.1	71.0	124.0
Toluene-D8		101.0	83.0	120.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231002B3.LCSDS02B, Parent Sample ID: 231002B3.LCSS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 00:29, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.7	81.0	124.0
1,2-Dichloroethane-D4		110.7	71.0	124.0
Toluene-D8		102.2	83.0	120.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF231002W2

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

Blank (BLK)

Lab Sample ID: 231002A7.BLKW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 15:08, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.0	80.0	124.0
1,2-Dichloroethane-D4		78.1	72.0	125.0
Toluene-D8		96.2	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231002A7.LCSW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 13:26, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.1	80.0	124.0
1,2-Dichloroethane-D4		80.6	72.0	125.0
Toluene-D8		96.2	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231002A7.LCSDW02A, Parent Sample ID: 231002A7.LCSW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 13:51, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.3	80.0	124.0
1,2-Dichloroethane-D4		75.2	72.0	125.0
Toluene-D8		95.9	89.0	112.0

Matrix Spike (MS)

Lab Sample ID: 231002A7.5382002M, Parent Sample ID: S53820.01

Run in Batch: 231002A7, Run Date: 10/02/2023 21:04, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.7	80.0	124.0
1,2-Dichloroethane-D4		80.3	72.0	125.0
Toluene-D8		96.9	89.0	112.0

Matrix Spike (MS)

Lab Sample ID: 231002A7.5382615M, Parent Sample ID: S53826.14

Run in Batch: 231002A7, Run Date: 10/02/2023 21:55, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.5	80.0	124.0
1,2-Dichloroethane-D4		78.3	72.0	125.0
Toluene-D8		97.2	89.0	112.0

QC Report - Surrogates per QC Sample

Matrix Spike (MS)

Lab Sample ID: 231002A7.5383305M, Parent Sample ID: S53833.04

Run in Batch: 231002A7, Run Date: 10/02/2023 22:47, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.8	80.0	124.0
1,2-Dichloroethane-D4		87.6	72.0	125.0
Toluene-D8		97.1	89.0	112.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231002A7.5382003N, Parent Sample ID: 231002A7.5382002M

Run in Batch: 231002A7, Run Date: 10/02/2023 21:29, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.4	80.0	124.0
1,2-Dichloroethane-D4		81.0	72.0	125.0
Toluene-D8		97.3	89.0	112.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231002A7.5382616N, Parent Sample ID: 231002A7.5382615M

Run in Batch: 231002A7, Run Date: 10/02/2023 22:21, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.9	80.0	124.0
1,2-Dichloroethane-D4		88.3	72.0	125.0
Toluene-D8		96.4	89.0	112.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231002A7.5383306N, Parent Sample ID: 231002A7.5383305M

Run in Batch: 231002A7, Run Date: 10/02/2023 23:13, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.3	80.0	124.0
1,2-Dichloroethane-D4		80.9	72.0	125.0
Toluene-D8		96.9	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF231003W2

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

Blank (BLK)

Lab Sample ID: 231003A7.BLKW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 15:07, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.4	80.0	124.0
1,2-Dichloroethane-D4		84.6	72.0	125.0
Toluene-D8		96.7	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231003A7.LCSW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 13:26, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.4	80.0	124.0
1,2-Dichloroethane-D4		83.9	72.0	125.0
Toluene-D8		98.7	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231003A7.LCSDW03A, Parent Sample ID: 231003A7.LCSW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 13:51, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.4	80.0	124.0
1,2-Dichloroethane-D4		77.5	72.0	125.0
Toluene-D8		96.8	89.0	112.0

Matrix Spike (MS)

Lab Sample ID: 231003A7.5388510M, Parent Sample ID: S53885.09

Run in Batch: 231003A7, Run Date: 10/03/2023 23:17, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1000

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		103.5	80.0	124.0
1,2-Dichloroethane-D4		80.4	72.0	125.0
Toluene-D8		97.7	89.0	112.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231003A7.5388511N, Parent Sample ID: 231003A7.5388510M

Run in Batch: 231003A7, Run Date: 10/03/2023 23:42, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1000

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.3	80.0	124.0
1,2-Dichloroethane-D4		76.1	72.0	125.0
Toluene-D8		97.3	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF231005S1

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

Blank (BLK)

Lab Sample ID: 231005A5.BLKS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 14:55, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.4	81.0	124.0
1,2-Dichloroethane-D4		93.1	71.0	124.0
Toluene-D8		100.9	83.0	120.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231005A5.LCSS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 12:56, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.3	81.0	124.0
1,2-Dichloroethane-D4		102.7	71.0	124.0
Toluene-D8		100.8	83.0	120.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231005A5.LCSDS05A, Parent Sample ID: 231005A5.LCSS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 13:20, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		102.0	81.0	124.0
1,2-Dichloroethane-D4		101.5	71.0	124.0
Toluene-D8		101.4	83.0	120.0

Matrix Spike (MS)

Lab Sample ID: 231005A5.5382610M, Parent Sample ID: S53826.09

Run in Batch: 231005A5, Run Date: 10/05/2023 13:44, Prep Date: 10/05/2023, Matrix: SO, Dilution: 61.8

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.4	81.0	124.0
1,2-Dichloroethane-D4		103.4	71.0	124.0
Toluene-D8		101.6	83.0	120.0

Matrix Spike (MS)

Lab Sample ID: 231005A5.5404901M, Parent Sample ID: S54049.01

Run in Batch: 231005A5, Run Date: 10/05/2023 22:30, Prep Date: 10/05/2023, Matrix: WW, Dilution: 100

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		104.0	81.0	124.0
1,2-Dichloroethane-D4		101.0	71.0	124.0
Toluene-D8		100.0	83.0	120.0

QC Report - Surrogates per QC Sample

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231005A5.5382611N, Parent Sample ID: 231005A5.5382610M

Run in Batch: 231005A5, Run Date: 10/05/2023 14:07, Prep Date: 10/05/2023, Matrix: SO, Dilution: 60.5

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.0	81.0	124.0
1,2-Dichloroethane-D4		102.9	71.0	124.0
Toluene-D8		101.1	83.0	120.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF231005W4

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 231005B7.BLKW05B

Run in Batch: 231005B7, Run Date: 10/06/2023 00:40, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.6	80.0	124.0
1,2-Dichloroethane-D4		89.6	72.0	125.0
Toluene-D8		95.7	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231005B7.LCSW05B

Run in Batch: 231005B7, Run Date: 10/05/2023 23:06, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.5	80.0	124.0
1,2-Dichloroethane-D4		82.3	72.0	125.0
Toluene-D8		97.1	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231005B7.LCSDW05B, Parent Sample ID: 231005B7.LCSW05B

Run in Batch: 231005B7, Run Date: 10/05/2023 23:29, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.2	80.0	124.0
1,2-Dichloroethane-D4		94.2	72.0	125.0
Toluene-D8		98.2	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS231003S1

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

Blank (BLK)

Lab Sample ID: 231003A9.BLKS03A

Run in Batch: 231003A9, Run Date: 10/03/2023 14:23, Prep Date: 10/03/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample (LCS)

Lab Sample ID: 231003A9.LCSS03A

Run in Batch: 231003A9, Run Date: 10/03/2023 12:58, Prep Date: 10/03/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231003A9.LCSDS03A, Parent Sample ID: 231003A9.LCSS03A

Run in Batch: 231003A9, Run Date: 10/03/2023 13:20, Prep Date: 10/03/2023, Matrix: SO, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 231003A9.5382610M, Parent Sample ID: S53826.09

Run in Batch: 231003A9, Run Date: 10/03/2023 19:18, Prep Date: 10/03/2023, Matrix: SO, Dilution: 61.8

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231003A9.5382611N, Parent Sample ID: 231003A9.5382610M

Run in Batch: 231003A9, Run Date: 10/03/2023 19:39, Prep Date: 10/03/2023, Matrix: SO, Dilution: 60.5

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS231003W1

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

Blank (BLK)

Lab Sample ID: 231003B9.BLKS03B

Run in Batch: 231003B9, Run Date: 10/03/2023 22:48, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample (LCS)

Lab Sample ID: 231003B9.LCSS03B

Run in Batch: 231003B9, Run Date: 10/03/2023 21:24, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231003B9.LCSDS03B, Parent Sample ID: 231003B9.LCSS03B

Run in Batch: 231003B9, Run Date: 10/03/2023 21:45, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 231003B9.5382615M, Parent Sample ID: S53826.14

Run in Batch: 231003B9, Run Date: 10/04/2023 02:15, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231003B9.5382616N, Parent Sample ID: 231003B9.5382615M

Run in Batch: 231003B9, Run Date: 10/04/2023 02:36, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.01

Sample Tag: VAP-P2-NL58_1-2

Collected Date/Time: 09/26/2023 14:15

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 14:47, Matrix: SO, Dilution: 57.7

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		105.0	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 18:56, Matrix: SO, Dilution: 57.7

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		73.8	50.0	200.0
1,4-Difluorobenzene		80.2	50.0	200.0
Chlorobenzene-D5		80.5	50.0	200.0
1,4-Dichlorobenzene-D4		78.4	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.02

Sample Tag: VAP-P2-NL58_3.5-4.5

Collected Date/Time: 09/26/2023 14:20

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 15:07, Matrix: SO, Dilution: 62.7

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		120.6	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 19:19, Matrix: SO, Dilution: 62.7

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		79.8	50.0	200.0
1,4-Difluorobenzene		85.2	50.0	200.0
Chlorobenzene-D5		86.5	50.0	200.0
1,4-Dichlorobenzene-D4		85.7	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.03

Sample Tag: VAP-P2-NL58_7-8

Collected Date/Time: 09/26/2023 14:25

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 15:28, Matrix: SO, Dilution: 73.3

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		112.7	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 19:43, Matrix: SO, Dilution: 73.3

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		73.9	50.0	200.0
1,4-Difluorobenzene		78.6	50.0	200.0
Chlorobenzene-D5		80.8	50.0	200.0
1,4-Dichlorobenzene-D4		79.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.04

Sample Tag: VAP-P2-NL58_10-11

Collected Date/Time: 09/26/2023 14:30

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 15:49, Matrix: SO, Dilution: 63.5

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		116.9	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 20:06, Matrix: SO, Dilution: 63.5

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		76.3	50.0	200.0
1,4-Difluorobenzene		81.7	50.0	200.0
Chlorobenzene-D5		83.0	50.0	200.0
1,4-Dichlorobenzene-D4		81.7	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.05

Sample Tag: VAP-P2-NL58_10-15

Collected Date/Time: 09/26/2023 14:45

Matrix: Groundwater

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003B9, Run Date: 10/03/2023 23:49, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		127.6	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230929A9, Run Date: 09/29/2023 17:49, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		92.9	50.0	200.0
1,4-Difluorobenzene		95.9	50.0	200.0
Chlorobenzene-D5		98.8	50.0	200.0
1,4-Dichlorobenzene-D4		100.2	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.06

Sample Tag: VAP-P2-NL58_21-24.5

Collected Date/Time: 09/26/2023 16:00

Matrix: Groundwater

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003B9, Run Date: 10/04/2023 00:10, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		114.8	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230929A9, Run Date: 09/29/2023 18:08, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		89.7	50.0	200.0
1,4-Difluorobenzene		92.9	50.0	200.0
Chlorobenzene-D5		95.4	50.0	200.0
1,4-Dichlorobenzene-D4		95.9	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List (Replicate 01)

Run in Batch: 231005B7, Run Date: 10/06/2023 05:48, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		104.0	50.0	200.0
1,4-Difluorobenzene		106.5	50.0	200.0
Chlorobenzene-D5		103.5	50.0	200.0
1,4-Dichlorobenzene-D4		98.8	50.0	200.0

Lab Sample ID: S53826.07

Sample Tag: DUP-01_092623

Collected Date/Time: 09/26/2023 00:01

Matrix: Groundwater

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003B9, Run Date: 10/04/2023 00:31, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		127.0	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230929A9, Run Date: 09/29/2023 18:28, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		89.7	50.0	200.0
1,4-Difluorobenzene		92.3	50.0	200.0
Chlorobenzene-D5		96.5	50.0	200.0
1,4-Dichlorobenzene-D4		97.7	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List (Replicate 01)

Run in Batch: 231002A7, Run Date: 10/02/2023 20:38, Matrix: WW, Dilution: 10

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		91.6	50.0	200.0
1,4-Difluorobenzene		92.3	50.0	200.0
Chlorobenzene-D5		90.8	50.0	200.0
1,4-Dichlorobenzene-D4		88.0	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.08

Sample Tag: VAP-P2-NL59_1-2

Collected Date/Time: 09/26/2023 16:40

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 16:10, Matrix: SO, Dilution: 63

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		121.9	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 20:30, Matrix: SO, Dilution: 63

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		82.5	50.0	200.0
1,4-Difluorobenzene		87.4	50.0	200.0
Chlorobenzene-D5		88.1	50.0	200.0
1,4-Dichlorobenzene-D4		86.5	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.09

Sample Tag: VAP-P2-NL59_3-4

Collected Date/Time: 09/26/2023 16:45

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 16:31, Matrix: SO, Dilution: 63.5

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		124.8	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231005A5, Run Date: 10/05/2023 15:18, Matrix: SO, Dilution: 63.5

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		104.8	50.0	200.0
1,4-Difluorobenzene		104.3	50.0	200.0
Chlorobenzene-D5		105.1	50.0	200.0
1,4-Dichlorobenzene-D4		107.2	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.12

Sample Tag: VAP-P2-NL59_6-7

Collected Date/Time: 09/26/2023 16:50

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 16:52, Matrix: SO, Dilution: 61.7

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		117.3	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 22:05, Matrix: SO, Dilution: 61.7

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		80.1	50.0	200.0
1,4-Difluorobenzene		85.3	50.0	200.0
Chlorobenzene-D5		86.1	50.0	200.0
1,4-Dichlorobenzene-D4		84.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.13

Sample Tag: VAP-P2-NL59_9-10

Collected Date/Time: 09/26/2023 16:55

Matrix: Soil

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 17:13, Matrix: SO, Dilution: 57.4

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		122.2	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002A3, Run Date: 10/02/2023 22:30, Matrix: SO, Dilution: 57.4

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		76.4	50.0	200.0
1,4-Difluorobenzene		81.4	50.0	200.0
Chlorobenzene-D5		82.3	50.0	200.0
1,4-Dichlorobenzene-D4		81.2	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.14

Sample Tag: VAP-P2-NL59_10-15

Collected Date/Time: 09/26/2023 17:10

Matrix: Groundwater

COC Reference: 164849

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003B9, Run Date: 10/04/2023 00:51, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		122.8	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231002A7, Run Date: 10/02/2023 18:04, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		92.9	50.0	200.0
1,4-Difluorobenzene		94.8	50.0	200.0
Chlorobenzene-D5		93.0	50.0	200.0
1,4-Dichlorobenzene-D4		90.3	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.17

Sample Tag: DUP-02_092623

Collected Date/Time: 09/26/2023 00:01

Matrix: Soil

COC Reference: 164850

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 17:34, Matrix: SO, Dilution: 58.1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		116.2	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002B3, Run Date: 10/03/2023 02:29, Matrix: SO, Dilution: 58.1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		100.0	50.0	200.0
1,4-Difluorobenzene		98.8	50.0	200.0
Chlorobenzene-D5		97.6	50.0	200.0
1,4-Dichlorobenzene-D4		92.4	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.18

Sample Tag: VAP-P2-NL59_20-23.5

Collected Date/Time: 09/26/2023 18:15

Matrix: Groundwater

COC Reference: 164850

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003B9, Run Date: 10/04/2023 01:12, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		129.1	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231002A7, Run Date: 10/02/2023 18:30, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		90.7	50.0	200.0
1,4-Difluorobenzene		94.4	50.0	200.0
Chlorobenzene-D5		92.9	50.0	200.0
1,4-Dichlorobenzene-D4		89.3	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.19

Sample Tag: VAP-P2-NT58_1-2

Collected Date/Time: 09/27/2023 09:15

Matrix: Soil

COC Reference: 164850

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 17:54, Matrix: SO, Dilution: 58.9

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		126.1	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002B3, Run Date: 10/03/2023 02:53, Matrix: SO, Dilution: 58.9

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		98.3	50.0	200.0
1,4-Difluorobenzene		96.0	50.0	200.0
Chlorobenzene-D5		96.2	50.0	200.0
1,4-Dichlorobenzene-D4		91.7	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.20

Sample Tag: VAP-P2-NT58_3-4

Collected Date/Time: 09/27/2023 09:20

Matrix: Soil

COC Reference: 164850

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 18:15, Matrix: SO, Dilution: 65.1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		119.3	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002B3, Run Date: 10/03/2023 03:17, Matrix: SO, Dilution: 65.1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		94.7	50.0	200.0
1,4-Difluorobenzene		93.0	50.0	200.0
Chlorobenzene-D5		92.3	50.0	200.0
1,4-Dichlorobenzene-D4		87.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.21

Sample Tag: VAP-P2-NT58_6-7

Collected Date/Time: 09/27/2023 09:25

Matrix: Soil

COC Reference: 164850

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 18:36, Matrix: SO, Dilution: 60.1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		115.1	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002B3, Run Date: 10/03/2023 03:41, Matrix: SO, Dilution: 60.1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		97.6	50.0	200.0
1,4-Difluorobenzene		96.1	50.0	200.0
Chlorobenzene-D5		94.9	50.0	200.0
1,4-Dichlorobenzene-D4		90.2	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.22

Sample Tag: VAP-P2-NT58_9-10

Collected Date/Time: 09/27/2023 09:30

Matrix: Soil

COC Reference: 164850

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003A9, Run Date: 10/03/2023 18:57, Matrix: SO, Dilution: 59.3

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		124.9	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics 5035

Run in Batch: 231002B3, Run Date: 10/03/2023 04:05, Matrix: SO, Dilution: 59.3

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		97.8	50.0	200.0
1,4-Difluorobenzene		96.3	50.0	200.0
Chlorobenzene-D5		94.4	50.0	200.0
1,4-Dichlorobenzene-D4		88.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.23

Sample Tag: VAP-P2-NT58_10-15

Collected Date/Time: 09/27/2023 09:35

Matrix: Groundwater

COC Reference: 164850

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003B9, Run Date: 10/04/2023 01:33, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		124.7	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231002A7, Run Date: 10/02/2023 18:56, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		91.8	50.0	200.0
1,4-Difluorobenzene		92.5	50.0	200.0
Chlorobenzene-D5		91.5	50.0	200.0
1,4-Dichlorobenzene-D4		87.9	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.24

Sample Tag: VAP-P2-NT58_18-21.5

Collected Date/Time: 09/27/2023 10:45

Matrix: Groundwater

COC Reference: 164850

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003B9, Run Date: 10/04/2023 01:54, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		124.8	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230929A9, Run Date: 09/29/2023 19:27, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		95.3	50.0	200.0
1,4-Difluorobenzene		98.1	50.0	200.0
Chlorobenzene-D5		99.4	50.0	200.0
1,4-Dichlorobenzene-D4		98.4	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.25

Sample Tag: EB-01_092723

Collected Date/Time: 09/27/2023 11:00

Matrix: Groundwater

COC Reference: 164850

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003B9, Run Date: 10/03/2023 23:29, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		129.5	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231003A7, Run Date: 10/03/2023 15:58, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		92.0	50.0	200.0
1,4-Difluorobenzene		91.1	50.0	200.0
Chlorobenzene-D5		87.5	50.0	200.0
1,4-Dichlorobenzene-D4		81.5	50.0	200.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S53826.26

Sample Tag: Trip Blank

Collected Date/Time: 09/26/2023 00:01

Matrix: Groundwater

COC Reference: 164850

Organics - Volatiles, Analysis: 1,4-Dioxane

Run in Batch: 231003B9, Run Date: 10/03/2023 23:08, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		103.7	50.0	200.0

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231003A7, Run Date: 10/03/2023 15:32, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		95.7	50.0	200.0
1,4-Difluorobenzene		96.2	50.0	200.0
Chlorobenzene-D5		94.5	50.0	200.0
1,4-Dichlorobenzene-D4		89.0	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF230929W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 230929A9.BLKW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 14:12, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		96.7	50.0	200.0
1,4-Difluorobenzene		98.6	50.0	200.0
Chlorobenzene-D5		98.5	50.0	200.0
1,4-Dichlorobenzene-D4		99.4	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 230929A9.LCSW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 12:54, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		95.9	50.0	200.0
1,4-Difluorobenzene		96.3	50.0	200.0
Chlorobenzene-D5		97.1	50.0	200.0
1,4-Dichlorobenzene-D4		98.1	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230929A9.LCSDW29A, Parent Sample ID: 230929A9.LCSW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 13:14, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		97.2	50.0	200.0
1,4-Difluorobenzene		97.1	50.0	200.0
Chlorobenzene-D5		97.8	50.0	200.0
1,4-Dichlorobenzene-D4		98.9	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF231002S2

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 231002A3.BLKS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 14:24, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		88.9	50.0	200.0
1,4-Difluorobenzene		92.2	50.0	200.0
Chlorobenzene-D5		92.5	50.0	200.0
1,4-Dichlorobenzene-D4		89.4	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231002A3.LCSS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 12:23, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		97.4	50.0	200.0
1,4-Difluorobenzene		99.3	50.0	200.0
Chlorobenzene-D5		100.1	50.0	200.0
1,4-Dichlorobenzene-D4		101.0	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231002A3.LCSDS02A, Parent Sample ID: 231002A3.LCSS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 12:48, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		99.8	50.0	200.0
1,4-Difluorobenzene		101.8	50.0	200.0
Chlorobenzene-D5		101.7	50.0	200.0
1,4-Dichlorobenzene-D4		103.5	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF231002S4

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 231002B3.BLKS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 02:05, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		106.0	50.0	200.0
1,4-Difluorobenzene		104.7	50.0	200.0
Chlorobenzene-D5		104.6	50.0	200.0
1,4-Dichlorobenzene-D4		98.3	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231002B3.LCSS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 00:05, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		104.2	50.0	200.0
1,4-Difluorobenzene		104.0	50.0	200.0
Chlorobenzene-D5		103.6	50.0	200.0
1,4-Dichlorobenzene-D4		102.0	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231002B3.LCSDS02B, Parent Sample ID: 231002B3.LCSS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 00:29, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		104.5	50.0	200.0
1,4-Difluorobenzene		103.9	50.0	200.0
Chlorobenzene-D5		103.7	50.0	200.0
1,4-Dichlorobenzene-D4		101.3	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF231002W2

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

Blank (BLK)

Lab Sample ID: 231002A7.BLKW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 15:08, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		94.2	50.0	200.0
1,4-Difluorobenzene		93.9	50.0	200.0
Chlorobenzene-D5		92.6	50.0	200.0
1,4-Dichlorobenzene-D4		88.5	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231002A7.LCSW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 13:26, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		101.4	50.0	200.0
1,4-Difluorobenzene		99.7	50.0	200.0
Chlorobenzene-D5		98.4	50.0	200.0
1,4-Dichlorobenzene-D4		99.7	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231002A7.LCSDW02A, Parent Sample ID: 231002A7.LCSW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 13:51, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		96.1	50.0	200.0
1,4-Difluorobenzene		94.3	50.0	200.0
Chlorobenzene-D5		91.3	50.0	200.0
1,4-Dichlorobenzene-D4		92.2	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 231002A7.5382002M, Parent Sample ID: S53820.01

Run in Batch: 231002A7, Run Date: 10/02/2023 21:04, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		88.5	50.0	200.0
1,4-Difluorobenzene		91.1	50.0	200.0
Chlorobenzene-D5		90.0	50.0	200.0
1,4-Dichlorobenzene-D4		90.3	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 231002A7.5382615M, Parent Sample ID: S53826.14

Run in Batch: 231002A7, Run Date: 10/02/2023 21:55, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		93.0	50.0	200.0
1,4-Difluorobenzene		93.1	50.0	200.0
Chlorobenzene-D5		92.0	50.0	200.0
1,4-Dichlorobenzene-D4		91.8	50.0	200.0

QC Report - Internal Standards per QC Sample

Matrix Spike (MS)

Lab Sample ID: 231002A7.5383305M, Parent Sample ID: S53833.04

Run in Batch: 231002A7, Run Date: 10/02/2023 22:47, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		99.2	50.0	200.0
1,4-Difluorobenzene		104.2	50.0	200.0
Chlorobenzene-D5		106.8	50.0	200.0
1,4-Dichlorobenzene-D4		109.5	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231002A7.5382003N, Parent Sample ID: 231002A7.5382002M

Run in Batch: 231002A7, Run Date: 10/02/2023 21:29, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		90.9	50.0	200.0
1,4-Difluorobenzene		93.4	50.0	200.0
Chlorobenzene-D5		94.0	50.0	200.0
1,4-Dichlorobenzene-D4		93.2	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231002A7.5382616N, Parent Sample ID: 231002A7.5382615M

Run in Batch: 231002A7, Run Date: 10/02/2023 22:21, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		87.5	50.0	200.0
1,4-Difluorobenzene		96.8	50.0	200.0
Chlorobenzene-D5		96.9	50.0	200.0
1,4-Dichlorobenzene-D4		96.3	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231002A7.5383306N, Parent Sample ID: 231002A7.5383305M

Run in Batch: 231002A7, Run Date: 10/02/2023 23:13, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		93.8	50.0	200.0
1,4-Difluorobenzene		96.1	50.0	200.0
Chlorobenzene-D5		95.6	50.0	200.0
1,4-Dichlorobenzene-D4		96.1	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF231003W2

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

Blank (BLK)

Lab Sample ID: 231003A7.BLKW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 15:07, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		97.0	50.0	200.0
1,4-Difluorobenzene		96.7	50.0	200.0
Chlorobenzene-D5		95.8	50.0	200.0
1,4-Dichlorobenzene-D4		91.3	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231003A7.LCSW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 13:26, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		102.8	50.0	200.0
1,4-Difluorobenzene		102.8	50.0	200.0
Chlorobenzene-D5		103.5	50.0	200.0
1,4-Dichlorobenzene-D4		103.7	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231003A7.LCSDW03A, Parent Sample ID: 231003A7.LCSW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 13:51, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		92.7	50.0	200.0
1,4-Difluorobenzene		90.4	50.0	200.0
Chlorobenzene-D5		87.6	50.0	200.0
1,4-Dichlorobenzene-D4		86.2	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 231003A7.5388510M, Parent Sample ID: S53885.09

Run in Batch: 231003A7, Run Date: 10/03/2023 23:17, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1000

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		94.3	50.0	200.0
1,4-Difluorobenzene		94.1	50.0	200.0
Chlorobenzene-D5		93.3	50.0	200.0
1,4-Dichlorobenzene-D4		92.1	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231003A7.5388511N, Parent Sample ID: 231003A7.5388510M

Run in Batch: 231003A7, Run Date: 10/03/2023 23:42, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1000

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		90.2	50.0	200.0
1,4-Difluorobenzene		87.9	50.0	200.0
Chlorobenzene-D5		84.9	50.0	200.0
1,4-Dichlorobenzene-D4		83.5	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF231005S1

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

Blank (BLK)

Lab Sample ID: 231005A5.BLKS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 14:55, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		109.9	50.0	200.0
1,4-Difluorobenzene		107.7	50.0	200.0
Chlorobenzene-D5		110.1	50.0	200.0
1,4-Dichlorobenzene-D4		113.1	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231005A5.LCSS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 12:56, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		105.8	50.0	200.0
1,4-Difluorobenzene		104.4	50.0	200.0
Chlorobenzene-D5		104.6	50.0	200.0
1,4-Dichlorobenzene-D4		104.3	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231005A5.LCSDS05A, Parent Sample ID: 231005A5.LCSS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 13:20, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		103.9	50.0	200.0
1,4-Difluorobenzene		103.9	50.0	200.0
Chlorobenzene-D5		103.9	50.0	200.0
1,4-Dichlorobenzene-D4		104.2	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 231005A5.5382610M, Parent Sample ID: S53826.09

Run in Batch: 231005A5, Run Date: 10/05/2023 13:44, Prep Date: 10/05/2023, Matrix: SO, Dilution: 61.8

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		102.8	50.0	200.0
1,4-Difluorobenzene		102.7	50.0	200.0
Chlorobenzene-D5		102.4	50.0	200.0
1,4-Dichlorobenzene-D4		102.2	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 231005A5.5404901M, Parent Sample ID: S54049.01

Run in Batch: 231005A5, Run Date: 10/05/2023 22:30, Prep Date: 10/05/2023, Matrix: WW, Dilution: 100

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		100.7	50.0	200.0
1,4-Difluorobenzene		100.8	50.0	200.0
Chlorobenzene-D5		100.5	50.0	200.0
1,4-Dichlorobenzene-D4		101.2	50.0	200.0

QC Report - Internal Standards per QC Sample

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231005A5.5382611N, Parent Sample ID: 231005A5.5382610M

Run in Batch: 231005A5, Run Date: 10/05/2023 14:07, Prep Date: 10/05/2023, Matrix: SO, Dilution: 60.5

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		103.2	50.0	200.0
1,4-Difluorobenzene		102.7	50.0	200.0
Chlorobenzene-D5		103.3	50.0	200.0
1,4-Dichlorobenzene-D4		103.9	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VF231005W4

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 231005B7.BLKW05B

Run in Batch: 231005B7, Run Date: 10/06/2023 00:40, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		101.7	50.0	200.0
1,4-Difluorobenzene		104.6	50.0	200.0
Chlorobenzene-D5		102.3	50.0	200.0
1,4-Dichlorobenzene-D4		97.2	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231005B7.LCSW05B

Run in Batch: 231005B7, Run Date: 10/05/2023 23:06, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		101.6	50.0	200.0
1,4-Difluorobenzene		100.5	50.0	200.0
Chlorobenzene-D5		99.2	50.0	200.0
1,4-Dichlorobenzene-D4		96.2	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231005B7.LCSDW05B, Parent Sample ID: 231005B7.LCSW05B

Run in Batch: 231005B7, Run Date: 10/05/2023 23:29, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
Pentafluorobenzene		109.4	50.0	200.0
1,4-Difluorobenzene		112.5	50.0	200.0
Chlorobenzene-D5		115.8	50.0	200.0
1,4-Dichlorobenzene-D4		117.0	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS231003S1

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

Blank (BLK)

Lab Sample ID: 231003A9.BLKS03A

Run in Batch: 231003A9, Run Date: 10/03/2023 14:23, Prep Date: 10/03/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		108.4	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231003A9.LCSS03A

Run in Batch: 231003A9, Run Date: 10/03/2023 12:58, Prep Date: 10/03/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		108.3	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231003A9.LCSDS03A, Parent Sample ID: 231003A9.LCSS03A

Run in Batch: 231003A9, Run Date: 10/03/2023 13:20, Prep Date: 10/03/2023, Matrix: SO, Dilution: 50

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		117.9	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 231003A9.5382610M, Parent Sample ID: S53826.09

Run in Batch: 231003A9, Run Date: 10/03/2023 19:18, Prep Date: 10/03/2023, Matrix: SO, Dilution: 61.8

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		124.4	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231003A9.5382611N, Parent Sample ID: 231003A9.5382610M

Run in Batch: 231003A9, Run Date: 10/03/2023 19:39, Prep Date: 10/03/2023, Matrix: SO, Dilution: 60.5

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		123.8	50.0	200.0

QC Report - Internal Standards per QC Sample

Organics - Volatiles, Prep Batch ID: VS231003W1

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

Blank (BLK)

Lab Sample ID: 231003B9.BLKS03B

Run in Batch: 231003B9, Run Date: 10/03/2023 22:48, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		118.3	50.0	200.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231003B9.LCSS03B

Run in Batch: 231003B9, Run Date: 10/03/2023 21:24, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		127.0	50.0	200.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231003B9.LCSDS03B, Parent Sample ID: 231003B9.LCSS03B

Run in Batch: 231003B9, Run Date: 10/03/2023 21:45, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		119.6	50.0	200.0

Matrix Spike (MS)

Lab Sample ID: 231003B9.5382615M, Parent Sample ID: S53826.14

Run in Batch: 231003B9, Run Date: 10/04/2023 02:15, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		121.1	50.0	200.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231003B9.5382616N, Parent Sample ID: 231003B9.5382615M

Run in Batch: 231003B9, Run Date: 10/04/2023 02:36, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
1,4-Dioxane-D8		104.8	50.0	200.0

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TS230928A

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: TS230928A.LRB1

Run in Batch: TS230928A, Run Date: 09/28/2023 12:57, Prep Date: 09/28/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Solids		ND	1	%

Laboratory Control Sample (LCS)

Lab Sample ID: TS230928A.LCS1

Run in Batch: TS230928A, Run Date: 09/28/2023 12:57, Prep Date: 09/28/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Solids		100	90	110

Duplicate (DUP)

Lab Sample ID: TS230928A.DP1, Parent Sample ID: S53854.01

Run in Batch: TS230928A, Run Date: 09/28/2023 12:57, Prep Date: 09/28/2023, Matrix: Soil, Dilution: 1

Analyte	Flags	RPD	RPD CL
Total Solids		0	5

Duplicate (DUP)

Lab Sample ID: TS230928A.DP2, Parent Sample ID: S53788.02

Run in Batch: TS230928A, Run Date: 09/28/2023 12:57, Prep Date: 09/28/2023, Matrix: Soil, Dilution: 1

Analyte	Flags	RPD	RPD CL
Total Solids		0	5

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TS230928B

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: TS230928B.LRB1

Run in Batch: TS230928B, Run Date: 09/28/2023 12:57, Prep Date: 09/28/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Solids		ND	1	%

Laboratory Control Sample (LCS)

Lab Sample ID: TS230928B.LCS1

Run in Batch: TS230928B, Run Date: 09/28/2023 12:57, Prep Date: 09/28/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Total Solids		100	90	110

Duplicate (DUP)

Lab Sample ID: TS230928B.DP1, Parent Sample ID: S53826.08

Run in Batch: TS230928B, Run Date: 09/28/2023 12:57, Prep Date: 09/28/2023, Matrix: Soil, Dilution: 1

Analyte	Flags	RPD	RPD CL
Total Solids		0	5

Duplicate (DUP)

Lab Sample ID: TS230928B.DP2, Parent Sample ID: S53826.22

Run in Batch: TS230928B, Run Date: 09/28/2023 12:57, Prep Date: 09/28/2023, Matrix: Soil, Dilution: 1

Analyte	Flags	RPD	RPD CL
Total Solids		0	5

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230929W1

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

Blank (BLK)

Lab Sample ID: 230929A9.BLKW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 14:12, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230929W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 230929A9.BLKW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 14:12, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 230929A9.LCSW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 12:54, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		112.5	67.4	121.2
Acetone		109.2	29.9	161.5
Methyl iodide		103.6	68.8	116.4
Carbon disulfide		106.9	63.8	137.4
tert-Methyl butyl ether (MTBE)		103.4	73.2	122.4
Acrylonitrile		126.3	69.9	128.9
2-Butanone (MEK)		128.1	44.0	134.4
Dichlorodifluoromethane		94.6	10.0	222.8
Chloromethane		104.3	23.8	166.5
Vinyl chloride		105.1	43.5	149.1
Bromomethane		111.9	56.8	151.3
Chloroethane		115.0	53.4	149.4
Trichlorofluoromethane		108.2	59.7	151.8
1,1-Dichloroethene		107.4	69.6	139.4
Methylene chloride		108.4	73.3	121.1
trans-1,2-Dichloroethene		108.5	73.6	129.3
1,1-Dichloroethane		111.9	71.5	126.2
cis-1,2-Dichloroethene		110.7	76.6	122.1
Tetrahydrofuran		111.8	59.0	117.9
Chloroform		113.4	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230929W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230929A9.LCSW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 12:54, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		110.9	78.2	120.8
1,1,1-Trichloroethane		108.4	79.4	130.9
4-Methyl-2-pentanone (MIBK)		109.1	71.6	125.2
2-Hexanone		111.2	55.4	136.9
Carbon tetrachloride		113.3	72.6	133.0
Benzene		117.3	79.9	124.9
1,2-Dichloroethane		120.2	76.0	126.3
Trichloroethene		111.5	79.7	124.2
1,2-Dichloropropane		121.5	78.6	126.4
Bromodichloromethane		124.0	80.4	128.2
Dibromomethane		113.6	76.9	122.1
cis-1,3-Dichloropropene		121.4	79.8	129.9
Toluene		118.4	79.8	124.5
trans-1,3-Dichloropropene		120.6	74.0	131.3
1,1,2-Trichloroethane		122.2	78.7	123.1
Tetrachloroethene		111.2	74.5	124.5
trans-1,4-Dichloro-2-butene		118.1	68.6	135.4
Dibromochloromethane		114.1	74.6	127.2
1,2-Dibromoethane		113.2	70.3	133.7
Chlorobenzene		114.9	79.2	122.7
1,1,1,2-Tetrachloroethane		111.3	80.3	128.2
Ethylbenzene		115.4	79.5	129.1
p,m-Xylene		115.3	79.4	132.2
o-Xylene		116.6	80.2	131.0
Styrene		119.0	69.5	126.7
Isopropylbenzene		112.8	74.4	121.5
Bromoform		107.8	69.4	128.0
1,1,2,2-Tetrachloroethane		116.6	79.8	126.3
1,2,3-Trichloropropane		113.0	78.3	138.8
n-Propylbenzene		117.2	82.0	130.7
Bromobenzene		113.3	78.7	124.6
1,3,5-Trimethylbenzene		112.0	81.3	128.9
tert-Butylbenzene		112.0	80.7	128.9
1,2,4-Trimethylbenzene		112.9	81.4	130.8
sec-Butylbenzene		115.4	77.4	129.8
p-Isopropyltoluene		115.4	79.8	137.5
1,3-Dichlorobenzene		118.8	77.0	131.3
1,4-Dichlorobenzene		116.8	20.7	137.7
1,2-Dichlorobenzene		115.8	10.0	166.2
1,2,3-Trimethylbenzene		116.1	76.3	124.2
n-Butylbenzene		122.0	80.0	133.3
Hexachloroethane		104.6	23.8	138.1
1,2-Dibromo-3-chloropropane		108.5	21.2	189.4
1,2,4-Trichlorobenzene		111.2	27.4	143.4
1,2,3-Trichlorobenzene		109.7	75.4	131.4
Naphthalene		108.8	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230929W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 230929A9.LCSW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 12:54, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		98.0	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230929A9.LCSDW29A, Parent Sample ID: 230929A9.LCSW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 13:14, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		106.4	67.4	121.2	5.6	30.0
Acetone		106.0	29.9	161.5	3.0	30.0
Methyl iodide		95.6	68.8	116.4	8.1	30.0
Carbon disulfide		97.2	63.8	137.4	9.6	30.0
tert-Methyl butyl ether (MTBE)		98.6	73.2	122.4	4.8	30.0
Acrylonitrile		123.1	69.9	128.9	2.6	30.0
2-Butanone (MEK)		118.7	44.0	134.4	7.6	30.0
Dichlorodifluoromethane		86.8	10.0	222.8	8.6	30.0
Chloromethane		95.7	23.8	166.5	8.6	30.0
Vinyl chloride		95.8	43.5	149.1	9.3	30.0
Bromomethane		103.4	56.8	151.3	7.9	30.0
Chloroethane		104.8	53.4	149.4	9.3	30.0
Trichlorofluoromethane		99.3	59.7	151.8	8.7	30.0
1,1-Dichloroethene		98.7	69.6	139.4	8.4	30.0
Methylene chloride		100.0	73.3	121.1	8.0	30.0
trans-1,2-Dichloroethene		100.4	73.6	129.3	7.8	30.0
1,1-Dichloroethane		103.1	71.5	126.2	8.2	30.0
cis-1,2-Dichloroethene		101.8	76.6	122.1	8.4	30.0
Tetrahydrofuran		109.4	59.0	117.9	2.2	30.0
Chloroform		105.9	78.4	124.0	6.8	30.0
Bromochloromethane		103.4	78.2	120.8	7.0	30.0
1,1,1-Trichloroethane		100.1	79.4	130.9	8.0	30.0
4-Methyl-2-pentanone (MIBK)		112.4	71.6	125.2	3.0	30.0
2-Hexanone		113.2	55.4	136.9	1.8	30.0
Carbon tetrachloride		104.9	72.6	133.0	7.7	30.0
Benzene		110.1	79.9	124.9	6.3	30.0
1,2-Dichloroethane		114.2	76.0	126.3	5.1	30.0
Trichloroethene		105.5	79.7	124.2	5.6	30.0
1,2-Dichloropropane		116.2	78.6	126.4	4.4	30.0
Bromodichloromethane		116.2	80.4	128.2	6.5	30.0
Dibromomethane		106.0	76.9	122.1	7.0	30.0
cis-1,3-Dichloropropene		113.0	79.8	129.9	7.2	30.0
Toluene		111.0	79.8	124.5	6.4	30.0
trans-1,3-Dichloropropene		114.4	74.0	131.3	5.3	30.0
1,1,2-Trichloroethane		117.8	78.7	123.1	3.6	30.0
Tetrachloroethene		103.2	74.5	124.5	7.5	30.0
trans-1,4-Dichloro-2-butene		116.2	68.6	135.4	1.7	30.0
Dibromochloromethane		108.4	74.6	127.2	5.1	30.0
1,2-Dibromoethane		108.8	70.3	133.7	4.0	30.0
Chlorobenzene		107.4	79.2	122.7	6.8	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF230929W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230929A9.LCSDW29A, Parent Sample ID: 230929A9.LCSW29A

Run in Batch: 230929A9, Run Date: 09/29/2023 13:14, Prep Date: 09/29/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		105.3	80.3	128.2	5.6	30.0
Ethylbenzene		107.6	79.5	129.1	7.0	30.0
p,m-Xylene		107.7	79.4	132.2	6.8	30.0
o-Xylene		109.0	80.2	131.0	6.7	30.0
Styrene		111.9	69.5	126.7	6.2	30.0
Isopropylbenzene		105.4	74.4	121.5	6.8	30.0
Bromoform		104.9	69.4	128.0	2.7	30.0
1,1,2,2-Tetrachloroethane		115.0	79.8	126.3	1.4	30.0
1,2,3-Trichloropropane		110.1	78.3	138.8	2.5	30.0
n-Propylbenzene		108.9	82.0	130.7	7.4	30.0
Bromobenzene		106.7	78.7	124.6	6.1	30.0
1,3,5-Trimethylbenzene		105.9	81.3	128.9	5.6	30.0
tert-Butylbenzene		106.1	80.7	128.9	5.4	30.0
1,2,4-Trimethylbenzene		105.6	81.4	130.8	6.7	30.0
sec-Butylbenzene		108.5	77.4	129.8	6.1	30.0
p-Isopropyltoluene		108.7	79.8	137.5	6.0	30.0
1,3-Dichlorobenzene		110.7	77.0	131.3	7.0	30.0
1,4-Dichlorobenzene		109.4	20.7	137.7	6.6	30.0
1,2-Dichlorobenzene		110.1	10.0	166.2	5.0	30.0
1,2,3-Trimethylbenzene		110.5	76.3	124.2	5.0	30.0
n-Butylbenzene		113.8	80.0	133.3	7.0	30.0
Hexachloroethane		97.8	23.8	138.1	6.7	30.0
1,2-Dibromo-3-chloropropane		105.1	21.2	189.4	3.2	30.0
1,2,4-Trichlorobenzene		107.1	27.4	143.4	3.8	30.0
1,2,3-Trichlorobenzene		107.4	75.4	131.4	2.1	30.0
Naphthalene		108.1	32.9	135.8	0.6	30.0
2-Methylnaphthalene		103.2	25.5	165.5	5.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002S2

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

Blank (BLK)

Lab Sample ID: 231002A3.BLKS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 14:24, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	50.0	ug/kg
Acetone		ND	500.0	ug/kg
Methyl iodide		ND	50.0	ug/kg
Carbon disulfide		ND	50.0	ug/kg
tert-Methyl butyl ether (MTBE)		ND	50.0	ug/kg
Acrylonitrile		ND	50.0	ug/kg
2-Butanone (MEK)		ND	500.0	ug/kg
Dichlorodifluoromethane		ND	50.0	ug/kg
Chloromethane		ND	50.0	ug/kg
Vinyl chloride		ND	50.0	ug/kg
Bromomethane		ND	50.0	ug/kg
Chloroethane		ND	50.0	ug/kg
Trichlorofluoromethane		ND	50.0	ug/kg
1,1-Dichloroethene		ND	50.0	ug/kg
Methylene chloride		ND	50.0	ug/kg
trans-1,2-Dichloroethene		ND	50.0	ug/kg
1,1-Dichloroethane		ND	50.0	ug/kg
cis-1,2-Dichloroethene		ND	50.0	ug/kg
Tetrahydrofuran		ND	500.0	ug/kg
Chloroform		ND	50.0	ug/kg
Bromochloromethane		ND	50.0	ug/kg
1,1,1-Trichloroethane		ND	50.0	ug/kg
4-Methyl-2-pentanone (MIBK)		ND	50.0	ug/kg
2-Hexanone		ND	50.0	ug/kg
Carbon tetrachloride		ND	50.0	ug/kg
Benzene		ND	50.0	ug/kg
1,2-Dichloroethane		ND	50.0	ug/kg
Trichloroethene		ND	50.0	ug/kg
1,2-Dichloropropane		ND	50.0	ug/kg
Bromodichloromethane		ND	50.0	ug/kg
Dibromomethane		ND	50.0	ug/kg
cis-1,3-Dichloropropene		ND	50.0	ug/kg
Toluene		ND	50.0	ug/kg
trans-1,3-Dichloropropene		ND	50.0	ug/kg
1,1,2-Trichloroethane		ND	50.0	ug/kg
Tetrachloroethene		ND	50.0	ug/kg
trans-1,4-Dichloro-2-butene		ND	50.0	ug/kg
Dibromochloromethane		ND	50.0	ug/kg
1,2-Dibromoethane		ND	50.0	ug/kg
Chlorobenzene		ND	50.0	ug/kg
1,1,1,2-Tetrachloroethane		ND	50.0	ug/kg
Ethylbenzene		ND	50.0	ug/kg
p,m-Xylene		ND	50.0	ug/kg
o-Xylene		ND	50.0	ug/kg
Styrene		ND	50.0	ug/kg
Isopropylbenzene		ND	50.0	ug/kg

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002S2 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 231002A3.BLKS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 14:24, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	50.0	ug/kg
1,1,2,2-Tetrachloroethane		ND	50.0	ug/kg
1,2,3-Trichloropropane		ND	50.0	ug/kg
n-Propylbenzene		ND	50.0	ug/kg
Bromobenzene		ND	50.0	ug/kg
1,3,5-Trimethylbenzene		ND	50.0	ug/kg
tert-Butylbenzene		ND	50.0	ug/kg
1,2,4-Trimethylbenzene		ND	50.0	ug/kg
sec-Butylbenzene		ND	50.0	ug/kg
p-Isopropyltoluene		ND	50.0	ug/kg
1,3-Dichlorobenzene		ND	50.0	ug/kg
1,4-Dichlorobenzene		ND	50.0	ug/kg
1,2-Dichlorobenzene		ND	50.0	ug/kg
1,2,3-Trimethylbenzene		ND	50.0	ug/kg
n-Butylbenzene		ND	50.0	ug/kg
Hexachloroethane		ND	50.0	ug/kg
1,2-Dibromo-3-chloropropane		ND	50.0	ug/kg
1,2,4-Trichlorobenzene		ND	50.0	ug/kg
1,2,3-Trichlorobenzene		ND	50.0	ug/kg
Naphthalene		ND	50.0	ug/kg
2-Methylnaphthalene		ND	50.0	ug/kg

Laboratory Control Sample (LCS)

Lab Sample ID: 231002A3.LCSS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 12:23, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		100.5	51.7	123.0
Acetone		100.4	25.3	155.1
Methyl iodide		101.7	56.9	110.8
Carbon disulfide		103.4	57.0	123.0
tert-Methyl butyl ether (MTBE)		105.3	67.5	123.7
Acrylonitrile		102.2	58.7	133.0
2-Butanone (MEK)		98.5	38.7	136.9
Dichlorodifluoromethane		112.1	10.0	171.8
Chloromethane		103.8	30.2	152.7
Vinyl chloride		104.9	45.3	138.7
Bromomethane		100.4	10.0	157.4
Chloroethane		90.1	10.0	169.1
Trichlorofluoromethane		87.5	25.7	157.8
1,1-Dichloroethene		101.5	59.2	137.5
Methylene chloride		93.1	70.5	121.5
trans-1,2-Dichloroethene		100.7	72.5	128.8
1,1-Dichloroethane		101.7	72.5	123.4
cis-1,2-Dichloroethene		102.7	75.0	120.5
Tetrahydrofuran		99.6	48.2	125.7
Chloroform		100.6	74.6	123.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002S2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231002A3.LCSS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 12:23, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		104.6	72.3	122.8
1,1,1-Trichloroethane		103.4	73.8	128.9
4-Methyl-2-pentanone (MIBK)		107.2	60.4	133.8
2-Hexanone		110.3	45.7	141.9
Carbon tetrachloride		104.4	70.1	132.7
Benzene		100.1	74.6	128.9
1,2-Dichloroethane		99.4	73.2	125.4
Trichloroethene		101.3	74.1	127.6
1,2-Dichloropropane		102.8	77.6	124.4
Bromodichloromethane		106.5	76.7	128.4
Dibromomethane		102.8	72.5	127.3
cis-1,3-Dichloropropene		110.0	79.3	128.3
Toluene		99.8	74.8	129.2
trans-1,3-Dichloropropene		110.3	74.5	129.7
1,1,2-Trichloroethane		103.1	71.3	125.7
Tetrachloroethene		100.9	73.0	124.7
trans-1,4-Dichloro-2-butene		109.8	58.3	143.3
Dibromochloromethane		109.6	68.9	132.7
1,2-Dibromoethane		105.1	71.4	129.3
Chlorobenzene		100.0	74.2	128.1
1,1,1,2-Tetrachloroethane		104.7	76.6	133.0
Ethylbenzene		99.3	77.7	130.4
p,m-Xylene		100.4	79.8	132.0
o-Xylene		100.2	79.4	132.3
Styrene		102.9	71.3	119.3
Isopropylbenzene		101.0	70.3	128.2
Bromoform		112.8	54.7	137.4
1,1,2,2-Tetrachloroethane		105.2	65.4	134.9
1,2,3-Trichloropropane		103.5	67.2	154.5
n-Propylbenzene		101.6	77.3	135.2
Bromobenzene		100.3	74.0	132.4
1,3,5-Trimethylbenzene		102.0	75.6	137.0
tert-Butylbenzene		100.8	75.6	134.6
1,2,4-Trimethylbenzene		103.3	76.9	139.1
sec-Butylbenzene		99.7	72.7	135.6
p-Isopropyltoluene		101.1	77.1	140.9
1,3-Dichlorobenzene		100.0	77.3	131.0
1,4-Dichlorobenzene		98.5	33.1	125.8
1,2-Dichlorobenzene		100.9	73.5	132.7
1,2,3-Trimethylbenzene		98.4	70.9	130.2
n-Butylbenzene		103.0	75.0	138.6
Hexachloroethane		105.3	55.5	129.0
1,2-Dibromo-3-chloropropane		112.1	54.1	156.4
1,2,4-Trichlorobenzene		101.7	37.1	131.3
1,2,3-Trichlorobenzene		100.8	59.4	157.9
Naphthalene		105.4	39.3	129.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002S2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231002A3.LCSS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 12:23, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		100.6	10.0	175.9

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231002A3.LCSDS02A, Parent Sample ID: 231002A3.LCSS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 12:48, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		101.4	51.7	123.0	0.9	30.0
Acetone		96.8	25.3	155.1	3.7	30.0
Methyl iodide		99.7	56.9	110.8	2.0	30.0
Carbon disulfide		101.7	57.0	123.0	1.7	30.0
tert-Methyl butyl ether (MTBE)		105.5	67.5	123.7	0.2	30.0
Acrylonitrile		100.8	58.7	133.0	1.4	30.0
2-Butanone (MEK)		98.2	38.7	136.9	0.3	30.0
Dichlorodifluoromethane		105.3	10.0	171.8	6.2	30.0
Chloromethane		98.2	30.2	152.7	5.6	30.0
Vinyl chloride		99.1	45.3	138.7	5.7	30.0
Bromomethane		96.7	10.0	157.4	3.8	30.0
Chloroethane		86.9	10.0	169.1	3.6	30.0
Trichlorofluoromethane		85.5	25.7	157.8	2.4	30.0
1,1-Dichloroethene		97.8	59.2	137.5	3.7	30.0
Methylene chloride		92.1	70.5	121.5	1.1	30.0
trans-1,2-Dichloroethene		99.9	72.5	128.8	0.9	30.0
1,1-Dichloroethane		101.1	72.5	123.4	0.6	30.0
cis-1,2-Dichloroethene		101.9	75.0	120.5	0.7	30.0
Tetrahydrofuran		98.3	48.2	125.7	1.3	30.0
Chloroform		101.4	74.6	123.2	0.8	30.0
Bromochloromethane		104.0	72.3	122.8	0.6	30.0
1,1,1-Trichloroethane		103.0	73.8	128.9	0.3	30.0
4-Methyl-2-pentanone (MIBK)		110.5	60.4	133.8	3.0	30.0
2-Hexanone		110.5	45.7	141.9	0.1	30.0
Carbon tetrachloride		102.6	70.1	132.7	1.7	30.0
Benzene		99.7	74.6	128.9	0.4	30.0
1,2-Dichloroethane		100.2	73.2	125.4	0.8	30.0
Trichloroethene		99.9	74.1	127.6	1.3	30.0
1,2-Dichloropropane		102.7	77.6	124.4	0.1	30.0
Bromodichloromethane		106.6	76.7	128.4	0.1	30.0
Dibromomethane		103.2	72.5	127.3	0.3	30.0
cis-1,3-Dichloropropene		110.2	79.3	128.3	0.2	30.0
Toluene		98.7	74.8	129.2	1.1	30.0
trans-1,3-Dichloropropene		111.7	74.5	129.7	1.3	30.0
1,1,2-Trichloroethane		104.6	71.3	125.7	1.5	30.0
Tetrachloroethene		99.6	73.0	124.7	1.3	30.0
trans-1,4-Dichloro-2-butene		110.4	58.3	143.3	0.6	30.0
Dibromochloromethane		110.1	68.9	132.7	0.5	30.0
1,2-Dibromoethane		106.9	71.4	129.3	1.8	30.0
Chlorobenzene		100.2	74.2	128.1	0.2	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002S2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 231002A3.LCSDS02A, Parent Sample ID: 231002A3.LCSS02A

Run in Batch: 231002A3, Run Date: 10/02/2023 12:48, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		106.1	76.6	133.0	1.3	30.0
Ethylbenzene		99.3	77.7	130.4	0.0	30.0
p,m-Xylene		99.7	79.8	132.0	0.8	30.0
o-Xylene		100.8	79.4	132.3	0.6	30.0
Styrene		102.4	71.3	119.3	0.4	30.0
Isopropylbenzene		99.2	70.3	128.2	1.8	30.0
Bromoform		114.2	54.7	137.4	1.3	30.0
1,1,2,2-Tetrachloroethane		105.2	65.4	134.9	0.0	30.0
1,2,3-Trichloropropane		104.2	67.2	154.5	0.7	30.0
n-Propylbenzene		101.1	77.3	135.2	0.5	30.0
Bromobenzene		101.1	74.0	132.4	0.8	30.0
1,3,5-Trimethylbenzene		101.3	75.6	137.0	0.6	30.0
tert-Butylbenzene		100.1	75.6	134.6	0.7	30.0
1,2,4-Trimethylbenzene		102.4	76.9	139.1	0.9	30.0
sec-Butylbenzene		97.9	72.7	135.6	1.8	30.0
p-Isopropyltoluene		99.9	77.1	140.9	1.2	30.0
1,3-Dichlorobenzene		99.3	77.3	131.0	0.7	30.0
1,4-Dichlorobenzene		98.3	33.1	125.8	0.2	30.0
1,2-Dichlorobenzene		100.8	73.5	132.7	0.1	30.0
1,2,3-Trimethylbenzene		98.1	70.9	130.2	0.3	30.0
n-Butylbenzene		101.4	75.0	138.6	1.6	30.0
Hexachloroethane		104.1	55.5	129.0	1.1	30.0
1,2-Dibromo-3-chloropropane		111.9	54.1	156.4	0.1	30.0
1,2,4-Trichlorobenzene		102.5	37.1	131.3	0.8	30.0
1,2,3-Trichlorobenzene		103.2	59.4	157.9	2.3	30.0
Naphthalene		108.0	39.3	129.2	2.4	30.0
2-Methylnaphthalene		105.6	10.0	175.9	4.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002S4

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

Blank (BLK)

Lab Sample ID: 231002B3.BLKS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 02:05, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	50.0	ug/kg
Acetone		ND	500.0	ug/kg
Methyl iodide		ND	50.0	ug/kg
Carbon disulfide		ND	50.0	ug/kg
tert-Methyl butyl ether (MTBE)		ND	50.0	ug/kg
Acrylonitrile		ND	50.0	ug/kg
2-Butanone (MEK)		ND	500.0	ug/kg
Dichlorodifluoromethane		ND	50.0	ug/kg
Chloromethane		ND	50.0	ug/kg
Vinyl chloride		ND	50.0	ug/kg
Bromomethane		ND	50.0	ug/kg
Chloroethane		ND	50.0	ug/kg
Trichlorofluoromethane		ND	50.0	ug/kg
1,1-Dichloroethene		ND	50.0	ug/kg
Methylene chloride		ND	50.0	ug/kg
trans-1,2-Dichloroethene		ND	50.0	ug/kg
1,1-Dichloroethane		ND	50.0	ug/kg
cis-1,2-Dichloroethene		ND	50.0	ug/kg
Tetrahydrofuran		ND	500.0	ug/kg
Chloroform		ND	50.0	ug/kg
Bromochloromethane		ND	50.0	ug/kg
1,1,1-Trichloroethane		ND	50.0	ug/kg
4-Methyl-2-pentanone (MIBK)		ND	50.0	ug/kg
2-Hexanone		ND	50.0	ug/kg
Carbon tetrachloride		ND	50.0	ug/kg
Benzene		ND	50.0	ug/kg
1,2-Dichloroethane		ND	50.0	ug/kg
Trichloroethene		ND	50.0	ug/kg
1,2-Dichloropropane		ND	50.0	ug/kg
Bromodichloromethane		ND	50.0	ug/kg
Dibromomethane		ND	50.0	ug/kg
cis-1,3-Dichloropropene		ND	50.0	ug/kg
Toluene		ND	50.0	ug/kg
trans-1,3-Dichloropropene		ND	50.0	ug/kg
1,1,2-Trichloroethane		ND	50.0	ug/kg
Tetrachloroethene		ND	50.0	ug/kg
trans-1,4-Dichloro-2-butene		ND	50.0	ug/kg
Dibromochloromethane		ND	50.0	ug/kg
1,2-Dibromoethane		ND	50.0	ug/kg
Chlorobenzene		ND	50.0	ug/kg
1,1,1,2-Tetrachloroethane		ND	50.0	ug/kg
Ethylbenzene		ND	50.0	ug/kg
p,m-Xylene		ND	50.0	ug/kg
o-Xylene		ND	50.0	ug/kg
Styrene		ND	50.0	ug/kg
Isopropylbenzene		ND	50.0	ug/kg

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002S4 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 231002B3.BLKS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 02:05, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	50.0	ug/kg
1,1,2,2-Tetrachloroethane		ND	50.0	ug/kg
1,2,3-Trichloropropane		ND	50.0	ug/kg
n-Propylbenzene		ND	50.0	ug/kg
Bromobenzene		ND	50.0	ug/kg
1,3,5-Trimethylbenzene		ND	50.0	ug/kg
tert-Butylbenzene		ND	50.0	ug/kg
1,2,4-Trimethylbenzene		ND	50.0	ug/kg
sec-Butylbenzene		ND	50.0	ug/kg
p-Isopropyltoluene		ND	50.0	ug/kg
1,3-Dichlorobenzene		ND	50.0	ug/kg
1,4-Dichlorobenzene		ND	50.0	ug/kg
1,2-Dichlorobenzene		ND	50.0	ug/kg
1,2,3-Trimethylbenzene		ND	50.0	ug/kg
n-Butylbenzene		ND	50.0	ug/kg
Hexachloroethane		ND	50.0	ug/kg
1,2-Dibromo-3-chloropropane		ND	50.0	ug/kg
1,2,4-Trichlorobenzene		ND	50.0	ug/kg
1,2,3-Trichlorobenzene		ND	50.0	ug/kg
Naphthalene		ND	50.0	ug/kg
2-Methylnaphthalene		ND	50.0	ug/kg

Laboratory Control Sample (LCS)

Lab Sample ID: 231002B3.LCSS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 00:05, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		105.6	51.7	123.0
Acetone		106.7	25.3	155.1
Methyl iodide		106.4	56.9	110.8
Carbon disulfide		104.2	57.0	123.0
tert-Methyl butyl ether (MTBE)		112.0	67.5	123.7
Acrylonitrile		108.2	58.7	133.0
2-Butanone (MEK)		108.1	38.7	136.9
Dichlorodifluoromethane		111.0	10.0	171.8
Chloromethane		103.1	30.2	152.7
Vinyl chloride		104.5	45.3	138.7
Bromomethane		100.8	10.0	157.4
Chloroethane		98.0	10.0	169.1
Trichlorofluoromethane		95.3	25.7	157.8
1,1-Dichloroethene		106.9	59.2	137.5
Methylene chloride		99.1	70.5	121.5
trans-1,2-Dichloroethene		105.5	72.5	128.8
1,1-Dichloroethane		107.5	72.5	123.4
cis-1,2-Dichloroethene		107.1	75.0	120.5
Tetrahydrofuran		104.3	48.2	125.7
Chloroform		106.8	74.6	123.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002S4 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231002B3.LCSS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 00:05, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		109.9	72.3	122.8
1,1,1-Trichloroethane		107.0	73.8	128.9
4-Methyl-2-pentanone (MIBK)		111.2	60.4	133.8
2-Hexanone		114.7	45.7	141.9
Carbon tetrachloride		102.9	70.1	132.7
Benzene		102.6	74.6	128.9
1,2-Dichloroethane		102.5	73.2	125.4
Trichloroethene		101.3	74.1	127.6
1,2-Dichloropropane		105.2	77.6	124.4
Bromodichloromethane		107.7	76.7	128.4
Dibromomethane		105.6	72.5	127.3
cis-1,3-Dichloropropene		109.6	79.3	128.3
Toluene		100.1	74.8	129.2
trans-1,3-Dichloropropene		108.9	74.5	129.7
1,1,2-Trichloroethane		107.6	71.3	125.7
Tetrachloroethene		99.4	73.0	124.7
trans-1,4-Dichloro-2-butene		99.5	58.3	143.3
Dibromochloromethane		108.3	68.9	132.7
1,2-Dibromoethane		106.1	71.4	129.3
Chlorobenzene		99.7	74.2	128.1
1,1,1,2-Tetrachloroethane		102.9	76.6	133.0
Ethylbenzene		98.4	77.7	130.4
p,m-Xylene		99.2	79.8	132.0
o-Xylene		100.2	79.4	132.3
Styrene		101.6	71.3	119.3
Isopropylbenzene		99.9	70.3	128.2
Bromoform		108.8	54.7	137.4
1,1,2,2-Tetrachloroethane		104.9	65.4	134.9
1,2,3-Trichloropropane		104.1	67.2	154.5
n-Propylbenzene		98.9	77.3	135.2
Bromobenzene		99.1	74.0	132.4
1,3,5-Trimethylbenzene		100.5	75.6	137.0
tert-Butylbenzene		99.8	75.6	134.6
1,2,4-Trimethylbenzene		100.7	76.9	139.1
sec-Butylbenzene		98.1	72.7	135.6
p-Isopropyltoluene		97.5	77.1	140.9
1,3-Dichlorobenzene		96.3	77.3	131.0
1,4-Dichlorobenzene		94.5	33.1	125.8
1,2-Dichlorobenzene		99.9	73.5	132.7
1,2,3-Trimethylbenzene		98.6	70.9	130.2
n-Butylbenzene		95.5	75.0	138.6
Hexachloroethane		99.9	55.5	129.0
1,2-Dibromo-3-chloropropane		110.8	54.1	156.4
1,2,4-Trichlorobenzene		95.8	37.1	131.3
1,2,3-Trichlorobenzene		102.7	59.4	157.9
Naphthalene		109.4	39.3	129.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002S4 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231002B3.LCSS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 00:05, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		102.4	10.0	175.9

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231002B3.LCSDS02B, Parent Sample ID: 231002B3.LCSS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 00:29, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		104.0	51.7	123.0	1.5	30.0
Acetone		112.8	25.3	155.1	5.5	30.0
Methyl iodide		107.0	56.9	110.8	0.6	30.0
Carbon disulfide		106.9	57.0	123.0	2.6	30.0
tert-Methyl butyl ether (MTBE)		112.4	67.5	123.7	0.4	30.0
Acrylonitrile		109.0	58.7	133.0	0.7	30.0
2-Butanone (MEK)		107.8	38.7	136.9	0.3	30.0
Dichlorodifluoromethane		110.0	10.0	171.8	0.9	30.0
Chloromethane		103.8	30.2	152.7	0.7	30.0
Vinyl chloride		104.9	45.3	138.7	0.4	30.0
Bromomethane		100.6	10.0	157.4	0.2	30.0
Chloroethane		98.1	10.0	169.1	0.1	30.0
Trichlorofluoromethane		96.0	25.7	157.8	0.7	30.0
1,1-Dichloroethene		106.3	59.2	137.5	0.6	30.0
Methylene chloride		99.8	70.5	121.5	0.7	30.0
trans-1,2-Dichloroethene		107.5	72.5	128.8	1.9	30.0
1,1-Dichloroethane		109.2	72.5	123.4	1.6	30.0
cis-1,2-Dichloroethene		108.9	75.0	120.5	1.7	30.0
Tetrahydrofuran		106.9	48.2	125.7	2.4	30.0
Chloroform		107.9	74.6	123.2	1.0	30.0
Bromochloromethane		109.9	72.3	122.8	0.1	30.0
1,1,1-Trichloroethane		109.5	73.8	128.9	2.4	30.0
4-Methyl-2-pentanone (MIBK)		116.3	60.4	133.8	4.4	30.0
2-Hexanone		116.8	45.7	141.9	1.8	30.0
Carbon tetrachloride		104.6	70.1	132.7	1.6	30.0
Benzene		104.5	74.6	128.9	1.9	30.0
1,2-Dichloroethane		104.0	73.2	125.4	1.4	30.0
Trichloroethene		103.4	74.1	127.6	2.1	30.0
1,2-Dichloropropane		106.7	77.6	124.4	1.4	30.0
Bromodichloromethane		107.8	76.7	128.4	0.0	30.0
Dibromomethane		105.9	72.5	127.3	0.3	30.0
cis-1,3-Dichloropropene		110.3	79.3	128.3	0.7	30.0
Toluene		102.5	74.8	129.2	2.3	30.0
trans-1,3-Dichloropropene		112.0	74.5	129.7	2.9	30.0
1,1,2-Trichloroethane		107.1	71.3	125.7	0.5	30.0
Tetrachloroethene		101.3	73.0	124.7	1.9	30.0
trans-1,4-Dichloro-2-butene		102.1	58.3	143.3	2.6	30.0
Dibromochloromethane		109.3	68.9	132.7	0.9	30.0
1,2-Dibromoethane		107.8	71.4	129.3	1.6	30.0
Chlorobenzene		101.6	74.2	128.1	1.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002S4 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 231002B3.LCSDS02B, Parent Sample ID: 231002B3.LCSS02B

Run in Batch: 231002B3, Run Date: 10/03/2023 00:29, Prep Date: 10/02/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		105.1	76.6	133.0	2.1	30.0
Ethylbenzene		101.4	77.7	130.4	2.9	30.0
p,m-Xylene		100.3	79.8	132.0	1.0	30.0
o-Xylene		102.3	79.4	132.3	2.1	30.0
Styrene		102.2	71.3	119.3	0.6	30.0
Isopropylbenzene		101.6	70.3	128.2	1.7	30.0
Bromoform		110.3	54.7	137.4	1.4	30.0
1,1,2,2-Tetrachloroethane		106.5	65.4	134.9	1.5	30.0
1,2,3-Trichloropropane		106.4	67.2	154.5	2.2	30.0
n-Propylbenzene		101.7	77.3	135.2	2.7	30.0
Bromobenzene		101.8	74.0	132.4	2.7	30.0
1,3,5-Trimethylbenzene		102.0	75.6	137.0	1.5	30.0
tert-Butylbenzene		102.9	75.6	134.6	3.1	30.0
1,2,4-Trimethylbenzene		103.1	76.9	139.1	2.4	30.0
sec-Butylbenzene		102.2	72.7	135.6	4.2	30.0
p-Isopropyltoluene		101.8	77.1	140.9	4.2	30.0
1,3-Dichlorobenzene		98.3	77.3	131.0	2.1	30.0
1,4-Dichlorobenzene		96.4	33.1	125.8	2.0	30.0
1,2-Dichlorobenzene		102.4	73.5	132.7	2.6	30.0
1,2,3-Trimethylbenzene		100.3	70.9	130.2	1.7	30.0
n-Butylbenzene		100.2	75.0	138.6	4.8	30.0
Hexachloroethane		104.9	55.5	129.0	4.9	30.0
1,2-Dibromo-3-chloropropane		114.5	54.1	156.4	3.2	30.0
1,2,4-Trichlorobenzene		100.0	37.1	131.3	4.3	30.0
1,2,3-Trichlorobenzene		105.3	59.4	157.9	2.5	30.0
Naphthalene		113.3	39.3	129.2	3.5	30.0
2-Methylnaphthalene		107.8	10.0	175.9	5.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2

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

Blank (BLK)

Lab Sample ID: 231002A7.BLKW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 15:08, Prep Date: 10/02/2023, 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	*	1.62	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: VF231002W2 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 231002A7.BLKW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 15:08, Prep Date: 10/02/2023, 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: 231002A7.LCSW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 13:26, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		79.9	29.9	161.5
Acrylonitrile		102.0	69.9	128.9
2-Butanone (MEK)		92.4	44.0	134.4
Benzene		100.2	79.9	124.9
n-Butylbenzene		105.0	80.0	133.3
Bromobenzene		104.4	78.7	124.6
Bromochloromethane		93.7	78.2	120.8
Bromodichloromethane		96.2	80.4	128.2
Bromoform		105.9	69.4	128.0
Bromomethane		79.7	56.8	151.3
sec-Butylbenzene		102.2	77.4	129.8
tert-Butylbenzene		102.6	80.7	128.9
Carbon disulfide		100.6	63.8	137.4
Carbon tetrachloride		110.6	72.6	133.0
Chlorobenzene		101.5	79.2	122.7
Chloroethane		80.9	53.4	149.4
Chloroform		91.1	78.4	124.0
Chloromethane		79.7	23.8	166.5
1,1-Dichloroethane		94.9	71.5	126.2
1,1-Dichloroethene		98.5	69.6	139.4

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231002A7.LCSW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 13:26, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2-Dibromo-3-chloropropane		108.7	21.2	189.4
1,2-Dibromoethane		104.5	70.3	133.7
1,2-Dichlorobenzene		99.6	10.0	166.2
1,2-Dichloroethane		92.1	76.0	126.3
1,2-Dichloropropane		98.0	78.6	126.4
1,3-Dichlorobenzene		101.1	77.0	131.3
1,4-Dichlorobenzene		100.7	20.7	137.7
cis-1,2-Dichloroethene		111.1	76.6	122.1
cis-1,3-Dichloropropene		99.5	79.8	129.9
Dibromochloromethane		106.9	74.6	127.2
Dibromomethane		104.3	76.9	122.1
Dichlorodifluoromethane		76.5	10.0	222.8
Diethyl ether		91.1	67.4	121.2
trans-1,2-Dichloroethene		97.6	73.6	129.3
trans-1,3-Dichloropropene		94.5	74.0	131.3
trans-1,4-Dichloro-2-butene		104.6	68.6	135.4
Ethylbenzene		103.1	79.5	129.1
2-Hexanone		99.0	55.4	136.9
Hexachloroethane		111.2	23.8	138.1
p-Isopropyltoluene		103.5	79.8	137.5
Isopropylbenzene		104.1	74.4	121.5
2-Methylnaphthalene		106.1	25.5	165.5
4-Methyl-2-pentanone (MIBK)		97.1	71.6	125.2
tert-Methyl butyl ether (MTBE)		100.4	73.2	122.4
Methyl iodide		103.1	68.8	116.4
Methylene chloride		94.1	73.3	121.1
Naphthalene		108.0	32.9	135.8
n-Propylbenzene		105.1	82.0	130.7
Styrene		102.9	69.5	126.7
1,1,1,2-Tetrachloroethane		104.7	80.3	128.2
1,1,1-Trichloroethane		96.7	79.4	130.9
1,1,2,2-Tetrachloroethane		103.0	79.8	126.3
1,1,2-Trichloroethane		98.1	78.7	123.1
1,2,3-Trichlorobenzene		110.3	75.4	131.4
1,2,3-Trichloropropane		101.3	78.3	138.8
1,2,3-Trimethylbenzene		98.1	76.3	124.2
1,2,4-Trichlorobenzene		107.7	27.4	143.4
1,2,4-Trimethylbenzene		106.1	81.4	130.8
1,3,5-Trimethylbenzene		106.8	81.3	128.9
Tetrachloroethene		106.1	74.5	124.5
Tetrahydrofuran		81.9	59.0	117.9
Toluene		98.7	79.8	124.5
Trichloroethene		107.4	79.7	124.2
Trichlorofluoromethane		82.8	59.7	151.8
Vinyl chloride		81.2	43.5	149.1
o-Xylene		99.5	80.2	131.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231002A7.LCSW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 13:26, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		103.9	79.4	132.2

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231002A7.LCSDW02A, Parent Sample ID: 231002A7.LCSW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 13:51, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		97.3	29.9	161.5	19.6	30.0
Acrylonitrile		113.8	69.9	128.9	10.9	30.0
2-Butanone (MEK)		108.1	44.0	134.4	15.7	30.0
Benzene		99.6	79.9	124.9	0.6	30.0
n-Butylbenzene		105.7	80.0	133.3	0.7	30.0
Bromobenzene		110.0	78.7	124.6	5.3	30.0
Bromochloromethane		97.4	78.2	120.8	3.8	30.0
Bromodichloromethane		98.5	80.4	128.2	2.4	30.0
Bromoform		117.1	69.4	128.0	10.0	30.0
Bromomethane		80.6	56.8	151.3	1.1	30.0
sec-Butylbenzene		104.1	77.4	129.8	1.8	30.0
tert-Butylbenzene		104.3	80.7	128.9	1.7	30.0
Carbon disulfide		98.0	63.8	137.4	2.6	30.0
Carbon tetrachloride		104.6	72.6	133.0	5.6	30.0
Chlorobenzene		105.1	79.2	122.7	3.5	30.0
Chloroethane		79.4	53.4	149.4	1.8	30.0
Chloroform		92.0	78.4	124.0	1.0	30.0
Chloromethane		81.0	23.8	166.5	1.6	30.0
1,1-Dichloroethane		97.2	71.5	126.2	2.4	30.0
1,1-Dichloroethene		98.6	69.6	139.4	0.0	30.0
1,2-Dibromo-3-chloropropane		129.7	21.2	189.4	17.7	30.0
1,2-Dibromoethane		113.9	70.3	133.7	8.6	30.0
1,2-Dichlorobenzene		104.6	10.0	166.2	4.9	30.0
1,2-Dichloroethane		95.4	76.0	126.3	3.5	30.0
1,2-Dichloropropane		100.4	78.6	126.4	2.4	30.0
1,3-Dichlorobenzene		104.6	77.0	131.3	3.4	30.0
1,4-Dichlorobenzene		105.2	20.7	137.7	4.4	30.0
cis-1,2-Dichloroethene		104.7	76.6	122.1	5.9	30.0
cis-1,3-Dichloropropene		101.2	79.8	129.9	1.7	30.0
Dibromochloromethane		111.3	74.6	127.2	4.1	30.0
Dibromomethane		108.2	76.9	122.1	3.7	30.0
Dichlorodifluoromethane		73.2	10.0	222.8	4.4	30.0
Diethyl ether		98.5	67.4	121.2	7.7	30.0
trans-1,2-Dichloroethene		97.6	73.6	129.3	0.0	30.0
trans-1,3-Dichloropropene		98.5	74.0	131.3	4.1	30.0
trans-1,4-Dichloro-2-butene		121.5	68.6	135.4	15.0	30.0
Ethylbenzene		105.0	79.5	129.1	1.8	30.0
2-Hexanone		116.9	55.4	136.9	16.6	30.0
Hexachloroethane		113.5	23.8	138.1	2.0	30.0
p-Isopropyltoluene		103.4	79.8	137.5	0.1	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 231002A7.LCSDW02A, Parent Sample ID: 231002A7.LCSW02A

Run in Batch: 231002A7, Run Date: 10/02/2023 13:51, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isopropylbenzene		106.1	74.4	121.5	2.0	30.0
2-Methylnaphthalene		130.6	25.5	165.5	20.7	30.0
4-Methyl-2-pentanone (MIBK)		114.9	71.6	125.2	16.8	30.0
tert-Methyl butyl ether (MTBE)		112.6	73.2	122.4	11.4	30.0
Methyl iodide		104.3	68.8	116.4	1.1	30.0
Methylene chloride		96.4	73.3	121.1	2.5	30.0
Naphthalene		124.3	32.9	135.8	14.0	30.0
n-Propylbenzene		106.9	82.0	130.7	1.6	30.0
Styrene		106.7	69.5	126.7	3.6	30.0
1,1,1,2-Tetrachloroethane		106.9	80.3	128.2	2.1	30.0
1,1,1-Trichloroethane		96.0	79.4	130.9	0.7	30.0
1,1,2,2-Tetrachloroethane		117.2	79.8	126.3	12.9	30.0
1,1,2-Trichloroethane		103.7	78.7	123.1	5.5	30.0
1,2,3-Trichlorobenzene		121.2	75.4	131.4	9.4	30.0
1,2,3-Trichloropropane		117.7	78.3	138.8	15.0	30.0
1,2,3-Trimethylbenzene		101.2	76.3	124.2	3.1	30.0
1,2,4-Trichlorobenzene		114.3	27.4	143.4	5.9	30.0
1,2,4-Trimethylbenzene		107.6	81.4	130.8	1.5	30.0
1,3,5-Trimethylbenzene		109.0	81.3	128.9	2.0	30.0
Tetrachloroethene		106.2	74.5	124.5	0.1	30.0
Tetrahydrofuran		100.0	59.0	117.9	19.9	30.0
Toluene		99.2	79.8	124.5	0.5	30.0
Trichloroethene		104.1	79.7	124.2	3.1	30.0
Trichlorofluoromethane		83.3	59.7	151.8	0.5	30.0
Vinyl chloride		79.9	43.5	149.1	1.6	30.0
o-Xylene		102.1	80.2	131.0	2.6	30.0
p,m-Xylene		105.7	79.4	132.2	1.7	30.0

Matrix Spike (MS)

Lab Sample ID: 231002A7.5382002M, Parent Sample ID: S53820.01

Run in Batch: 231002A7, Run Date: 10/02/2023 21:04, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		89.0	29.9	161.5
Acrylonitrile		114.4	69.9	128.9
2-Butanone (MEK)		99.5	44.0	134.4
Benzene		98.7	79.9	124.9
n-Butylbenzene		99.8	80.0	133.3
Bromobenzene		103.1	78.7	124.6
Bromochloromethane		98.0	78.2	120.8
Bromodichloromethane		92.7	80.4	128.2
Bromoform		100.4	69.4	128.0
Bromomethane		83.5	56.8	151.3
sec-Butylbenzene		97.9	77.4	129.8
tert-Butylbenzene		106.8	80.7	128.9
Carbon disulfide		101.3	63.8	137.4
Carbon tetrachloride		100.1	72.6	133.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 231002A7.5382002M, Parent Sample ID: S53820.01

Run in Batch: 231002A7, Run Date: 10/02/2023 21:04, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chlorobenzene		101.3	79.2	122.7
Chloroethane		87.3	53.4	149.4
Chloroform		97.4	78.4	124.0
Chloromethane		86.0	23.8	166.5
1,1-Dichloroethane		98.9	71.5	126.2
1,1-Dichloroethene		103.0	69.6	139.4
1,2-Dibromo-3-chloropropane		106.5	21.2	189.4
1,2-Dibromoethane		102.0	70.3	133.7
1,2-Dichlorobenzene		99.1	10.0	166.2
1,2-Dichloroethane		91.2	76.0	126.3
1,2-Dichloropropane		97.6	78.6	126.4
1,3-Dichlorobenzene		97.9	77.0	131.3
1,4-Dichlorobenzene		99.6	20.7	137.7
cis-1,2-Dichloroethene		98.5	76.6	122.1
cis-1,3-Dichloropropene		94.0	79.8	129.9
Dibromochloromethane		102.3	74.6	127.2
Dibromomethane		103.4	76.9	122.1
Dichlorodifluoromethane		79.2	10.0	222.8
Diethyl ether		96.9	67.4	121.2
trans-1,2-Dichloroethene		100.3	73.6	129.3
trans-1,3-Dichloropropene		89.6	74.0	131.3
trans-1,4-Dichloro-2-butene		103.1	68.6	135.4
Ethylbenzene		101.8	79.5	129.1
2-Hexanone		100.8	55.4	136.9
Hexachloroethane		101.6	23.8	138.1
p-Isopropyltoluene		97.3	79.8	137.5
Isopropylbenzene		103.3	74.4	121.5
2-Methylnaphthalene		94.0	25.5	165.5
4-Methyl-2-pentanone (MIBK)		97.9	71.6	125.2
tert-Methyl butyl ether (MTBE)		106.7	73.2	122.4
Methyl iodide		106.9	68.8	116.4
Methylene chloride		99.6	73.3	121.1
Naphthalene		106.4	32.9	135.8
n-Propylbenzene		103.6	82.0	130.7
Styrene		101.4	69.5	126.7
1,1,1,2-Tetrachloroethane		99.2	80.3	128.2
1,1,1-Trichloroethane		95.5	79.4	130.9
1,1,2,2-Tetrachloroethane		104.8	79.8	126.3
1,1,2-Trichloroethane		100.3	78.7	123.1
1,2,3-Trichlorobenzene		102.5	75.4	131.4
1,2,3-Trichloropropane		105.1	78.3	138.8
1,2,3-Trimethylbenzene		97.6	76.3	124.2
1,2,4-Trichlorobenzene		101.9	27.4	143.4
1,2,4-Trimethylbenzene		104.7	81.4	130.8
1,3,5-Trimethylbenzene		110.3	81.3	128.9
Tetrachloroethene		104.2	74.5	124.5

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 231002A7.5382002M, Parent Sample ID: S53820.01

Run in Batch: 231002A7, Run Date: 10/02/2023 21:04, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Tetrahydrofuran		92.0	59.0	117.9
Toluene		98.2	79.8	124.5
Trichloroethene		98.2	79.7	124.2
Trichlorofluoromethane		88.8	59.7	151.8
Vinyl chloride		86.5	43.5	149.1
o-Xylene		98.4	80.2	131.0
p,m-Xylene		102.5	79.4	132.2

Matrix Spike (MS)

Lab Sample ID: 231002A7.5382615M, Parent Sample ID: S53826.14

Run in Batch: 231002A7, Run Date: 10/02/2023 21:55, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		87.0	29.9	161.5
Acrylonitrile		101.3	69.9	128.9
2-Butanone (MEK)		93.1	44.0	134.4
Benzene		97.7	79.9	124.9
n-Butylbenzene		97.5	80.0	133.3
Bromobenzene		102.6	78.7	124.6
Bromochloromethane		97.3	78.2	120.8
Bromodichloromethane		92.7	80.4	128.2
Bromoform		100.0	69.4	128.0
Bromomethane		82.6	56.8	151.3
sec-Butylbenzene		97.8	77.4	129.8
tert-Butylbenzene		99.2	80.7	128.9
Carbon disulfide		99.9	63.8	137.4
Carbon tetrachloride		103.6	72.6	133.0
Chlorobenzene		99.7	79.2	122.7
Chloroethane		84.1	53.4	149.4
Chloroform		92.4	78.4	124.0
Chloromethane		79.9	23.8	166.5
1,1-Dichloroethane		97.1	71.5	126.2
1,1-Dichloroethene		101.0	69.6	139.4
1,2-Dibromo-3-chloropropane		101.3	21.2	189.4
1,2-Dibromoethane		103.2	70.3	133.7
1,2-Dichlorobenzene		98.8	10.0	166.2
1,2-Dichloroethane		91.4	76.0	126.3
1,2-Dichloropropane		97.9	78.6	126.4
1,3-Dichlorobenzene		98.5	77.0	131.3
1,4-Dichlorobenzene		99.5	20.7	137.7
cis-1,2-Dichloroethene		94.9	76.6	122.1
cis-1,3-Dichloropropene		95.0	79.8	129.9
Dibromochloromethane		101.2	74.6	127.2
Dibromomethane		100.4	76.9	122.1
Dichlorodifluoromethane		77.2	10.0	222.8
Diethyl ether		95.5	67.4	121.2
trans-1,2-Dichloroethene		99.6	73.6	129.3

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 231002A7.5382615M, Parent Sample ID: S53826.14

Run in Batch: 231002A7, Run Date: 10/02/2023 21:55, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
trans-1,3-Dichloropropene		91.4	74.0	131.3
trans-1,4-Dichloro-2-butene		96.3	68.6	135.4
Ethylbenzene		99.9	79.5	129.1
2-Hexanone		91.1	55.4	136.9
Hexachloroethane		100.9	23.8	138.1
p-Isopropyltoluene		98.1	79.8	137.5
Isopropylbenzene		99.8	74.4	121.5
2-Methylnaphthalene		96.4	25.5	165.5
4-Methyl-2-pentanone (MIBK)		92.7	71.6	125.2
tert-Methyl butyl ether (MTBE)		107.2	73.2	122.4
Methyl iodide		104.4	68.8	116.4
Methylene chloride		95.9	73.3	121.1
Naphthalene		101.5	32.9	135.8
n-Propylbenzene		100.4	82.0	130.7
Styrene		99.1	69.5	126.7
1,1,1,2-Tetrachloroethane		98.6	80.3	128.2
1,1,1-Trichloroethane		96.5	79.4	130.9
1,1,2,2-Tetrachloroethane		99.3	79.8	126.3
1,1,2-Trichloroethane		98.1	78.7	123.1
1,2,3-Trichlorobenzene		103.0	75.4	131.4
1,2,3-Trichloropropane		100.3	78.3	138.8
1,2,3-Trimethylbenzene		96.4	76.3	124.2
1,2,4-Trichlorobenzene		100.3	27.4	143.4
1,2,4-Trimethylbenzene		102.0	81.4	130.8
1,3,5-Trimethylbenzene		100.5	81.3	128.9
Tetrachloroethene		104.1	74.5	124.5
Tetrahydrofuran		79.0	59.0	117.9
Toluene		96.1	79.8	124.5
Trichloroethene		98.8	79.7	124.2
Trichlorofluoromethane		88.1	59.7	151.8
Vinyl chloride		83.1	43.5	149.1
o-Xylene		96.3	80.2	131.0
p,m-Xylene		99.8	79.4	132.2

Matrix Spike (MS)

Lab Sample ID: 231002A7.5383305M, Parent Sample ID: S53833.04

Run in Batch: 231002A7, Run Date: 10/02/2023 22:47, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Acetone		94.2	29.9	161.5
Acrylonitrile		107.1	69.9	128.9
2-Butanone (MEK)		98.8	44.0	134.4
Benzene		97.0	79.9	124.9
n-Butylbenzene		89.3	80.0	133.3
Bromobenzene		101.9	78.7	124.6
Bromochloromethane		103.3	78.2	120.8
Bromodichloromethane		96.5	80.4	128.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 231002A7.5383305M, Parent Sample ID: S53833.04

Run in Batch: 231002A7, Run Date: 10/02/2023 22:47, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromoform		100.7	69.4	128.0
Bromomethane		85.0	56.8	151.3
sec-Butylbenzene		88.9	77.4	129.8
tert-Butylbenzene		92.9	80.7	128.9
Carbon disulfide		98.5	63.8	137.4
Carbon tetrachloride		97.5	72.6	133.0
Chlorobenzene		97.3	79.2	122.7
Chloroethane		83.9	53.4	149.4
Chloroform		96.9	78.4	124.0
Chloromethane		81.6	23.8	166.5
1,1-Dichloroethane		100.7	71.5	126.2
1,1-Dichloroethene		98.5	69.6	139.4
1,2-Dibromo-3-chloropropane		99.6	21.2	189.4
1,2-Dibromoethane		102.0	70.3	133.7
1,2-Dichlorobenzene		95.1	10.0	166.2
1,2-Dichloroethane		93.7	76.0	126.3
1,2-Dichloropropane		100.2	78.6	126.4
1,3-Dichlorobenzene		95.4	77.0	131.3
1,4-Dichlorobenzene		96.5	20.7	137.7
cis-1,2-Dichloroethene		100.8	76.6	122.1
cis-1,3-Dichloropropene		100.3	79.8	129.9
Dibromochloromethane		101.7	74.6	127.2
Dibromomethane		104.6	76.9	122.1
Dichlorodifluoromethane		73.2	10.0	222.8
Diethyl ether		104.9	67.4	121.2
trans-1,2-Dichloroethene		99.0	73.6	129.3
trans-1,3-Dichloropropene		96.5	74.0	131.3
trans-1,4-Dichloro-2-butene		94.3	68.6	135.4
Ethylbenzene		94.6	79.5	129.1
2-Hexanone		100.0	55.4	136.9
Hexachloroethane		98.7	23.8	138.1
p-Isopropyltoluene		89.6	79.8	137.5
Isopropylbenzene		94.0	74.4	121.5
2-Methylnaphthalene		99.5	25.5	165.5
4-Methyl-2-pentanone (MIBK)		99.0	71.6	125.2
tert-Methyl butyl ether (MTBE)		116.5	73.2	122.4
Methyl iodide		107.6	68.8	116.4
Methylene chloride		103.4	73.3	121.1
Naphthalene		101.5	32.9	135.8
n-Propylbenzene		94.9	82.0	130.7
Styrene		99.1	69.5	126.7
1,1,1,2-Tetrachloroethane		100.6	80.3	128.2
1,1,1-Trichloroethane		96.2	79.4	130.9
1,1,2,2-Tetrachloroethane		98.9	79.8	126.3
1,1,2-Trichloroethane		101.3	78.7	123.1
1,2,3-Trichlorobenzene		101.9	75.4	131.4

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 231002A7.5383305M, Parent Sample ID: S53833.04

Run in Batch: 231002A7, Run Date: 10/02/2023 22:47, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2,3-Trichloropropane		98.3	78.3	138.8
1,2,3-Trimethylbenzene		93.4	76.3	124.2
1,2,4-Trichlorobenzene		99.0	27.4	143.4
1,2,4-Trimethylbenzene		99.0	81.4	130.8
1,3,5-Trimethylbenzene		97.5	81.3	128.9
Tetrachloroethene		99.6	74.5	124.5
Tetrahydrofuran		89.4	59.0	117.9
Toluene		96.1	79.8	124.5
Trichloroethene		94.0	79.7	124.2
Trichlorofluoromethane		85.0	59.7	151.8
Vinyl chloride		80.7	43.5	149.1
o-Xylene		94.6	80.2	131.0
p,m-Xylene		96.3	79.4	132.2

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231002A7.5382003N, Parent Sample ID: 231002A7.5382002M

Run in Batch: 231002A7, Run Date: 10/02/2023 21:29, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		95.6	29.9	161.5	5.6	30.0
Acrylonitrile		120.3	69.9	128.9	5.0	30.0
2-Butanone (MEK)		108.9	44.0	134.4	8.7	30.0
Benzene		96.7	79.9	124.9	1.9	30.0
n-Butylbenzene		101.4	80.0	133.3	1.6	30.0
Bromobenzene		101.7	78.7	124.6	1.4	30.0
Bromochloromethane		98.9	78.2	120.8	0.9	30.0
Bromodichloromethane		93.7	80.4	128.2	1.1	30.0
Bromoform		102.7	69.4	128.0	2.3	30.0
Bromomethane		84.0	56.8	151.3	0.6	30.0
sec-Butylbenzene		97.5	77.4	129.8	0.4	30.0
tert-Butylbenzene		104.5	80.7	128.9	2.2	30.0
Carbon disulfide		100.1	63.8	137.4	1.2	30.0
Carbon tetrachloride		97.2	72.6	133.0	3.0	30.0
Chlorobenzene		98.8	79.2	122.7	2.5	30.0
Chloroethane		85.3	53.4	149.4	2.3	30.0
Chloroform		96.4	78.4	124.0	1.1	30.0
Chloromethane		82.6	23.8	166.5	4.0	30.0
1,1-Dichloroethane		97.9	71.5	126.2	1.0	30.0
1,1-Dichloroethene		101.2	69.6	139.4	1.8	30.0
1,2-Dibromo-3-chloropropane		118.4	21.2	189.4	10.6	30.0
1,2-Dibromoethane		105.4	70.3	133.7	3.2	30.0
1,2-Dichlorobenzene		99.7	10.0	166.2	0.6	30.0
1,2-Dichloroethane		92.0	76.0	126.3	0.8	30.0
1,2-Dichloropropane		98.0	78.6	126.4	0.4	30.0
1,3-Dichlorobenzene		98.5	77.0	131.3	0.7	30.0
1,4-Dichlorobenzene		99.8	20.7	137.7	0.2	30.0
cis-1,2-Dichloroethene		96.2	76.6	122.1	2.2	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 231002A7.5382003N, Parent Sample ID: 231002A7.5382002M

Run in Batch: 231002A7, Run Date: 10/02/2023 21:29, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
cis-1,3-Dichloropropene		96.6	79.8	129.9	2.7	30.0
Dibromochloromethane		101.8	74.6	127.2	0.5	30.0
Dibromomethane		105.0	76.9	122.1	1.5	30.0
Dichlorodifluoromethane		76.7	10.0	222.8	3.2	30.0
Diethyl ether		99.0	67.4	121.2	2.1	30.0
trans-1,2-Dichloroethene		100.2	73.6	129.3	0.2	30.0
trans-1,3-Dichloropropene		93.2	74.0	131.3	3.9	30.0
trans-1,4-Dichloro-2-butene		104.8	68.6	135.4	1.6	30.0
Ethylbenzene		98.7	79.5	129.1	3.1	30.0
2-Hexanone		109.4	55.4	136.9	8.1	30.0
Hexachloroethane		103.0	23.8	138.1	1.4	30.0
p-Isopropyltoluene		96.6	79.8	137.5	0.8	30.0
Isopropylbenzene		98.1	74.4	121.5	4.9	30.0
2-Methylnaphthalene		116.3	25.5	165.5	20.9	30.0
4-Methyl-2-pentanone (MIBK)		104.3	71.6	125.2	6.3	30.0
tert-Methyl butyl ether (MTBE)		113.9	73.2	122.4	6.6	30.0
Methyl iodide		106.1	68.8	116.4	0.7	30.0
Methylene chloride		99.7	73.3	121.1	0.1	30.0
Naphthalene		116.7	32.9	135.8	8.9	30.0
n-Propylbenzene		99.5	82.0	130.7	3.4	30.0
Styrene		99.7	69.5	126.7	1.7	30.0
1,1,1,2-Tetrachloroethane		98.7	80.3	128.2	0.5	30.0
1,1,1-Trichloroethane		95.3	79.4	130.9	0.2	30.0
1,1,2,2-Tetrachloroethane		107.4	79.8	126.3	2.5	30.0
1,1,2-Trichloroethane		102.1	78.7	123.1	1.7	30.0
1,2,3-Trichlorobenzene		111.3	75.4	131.4	8.2	30.0
1,2,3-Trichloropropane		109.3	78.3	138.8	3.9	30.0
1,2,3-Trimethylbenzene		97.2	76.3	124.2	0.4	30.0
1,2,4-Trichlorobenzene		106.8	27.4	143.4	4.6	30.0
1,2,4-Trimethylbenzene		103.1	81.4	130.8	1.1	30.0
1,3,5-Trimethylbenzene		108.2	81.3	128.9	1.9	30.0
Tetrachloroethene		103.1	74.5	124.5	1.0	30.0
Tetrahydrofuran		98.9	59.0	117.9	7.1	30.0
Toluene		97.1	79.8	124.5	1.1	30.0
Trichloroethene		96.8	79.7	124.2	1.4	30.0
Trichlorofluoromethane		87.4	59.7	151.8	1.6	30.0
Vinyl chloride		83.0	43.5	149.1	4.2	30.0
o-Xylene		95.9	80.2	131.0	2.6	30.0
p,m-Xylene		99.5	79.4	132.2	2.6	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231002A7.5382616N, Parent Sample ID: 231002A7.5382615M

Run in Batch: 231002A7, Run Date: 10/02/2023 22:21, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		94.3	29.9	161.5	7.7	30.0
Acrylonitrile		113.6	69.9	128.9	11.5	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 231002A7.5382616N, Parent Sample ID: 231002A7.5382615M

Run in Batch: 231002A7, Run Date: 10/02/2023 22:21, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
2-Butanone (MEK)		104.5	44.0	134.4	11.5	30.0
Benzene		92.0	79.9	124.9	6.0	30.0
n-Butylbenzene		91.7	80.0	133.3	6.2	30.0
Bromobenzene		96.2	78.7	124.6	6.4	30.0
Bromochloromethane		100.4	78.2	120.8	3.1	30.0
Bromodichloromethane		89.3	80.4	128.2	3.8	30.0
Bromoform		97.1	69.4	128.0	3.0	30.0
Bromomethane		85.7	56.8	151.3	3.6	30.0
sec-Butylbenzene		91.3	77.4	129.8	6.8	30.0
tert-Butylbenzene		91.4	80.7	128.9	8.2	30.0
Carbon disulfide		101.9	63.8	137.4	2.0	30.0
Carbon tetrachloride		92.1	72.6	133.0	11.8	30.0
Chlorobenzene		93.9	79.2	122.7	6.0	30.0
Chloroethane		86.1	53.4	149.4	2.3	30.0
Chloroform		95.7	78.4	124.0	3.5	30.0
Chloromethane		83.3	23.8	166.5	4.1	30.0
1,1-Dichloroethane		100.3	71.5	126.2	2.7	30.0
1,1-Dichloroethene		102.9	69.6	139.4	1.9	30.0
1,2-Dibromo-3-chloropropane		103.4	21.2	189.4	2.0	30.0
1,2-Dibromoethane		97.9	70.3	133.7	5.3	30.0
1,2-Dichlorobenzene		93.9	10.0	166.2	5.1	30.0
1,2-Dichloroethane		86.5	76.0	126.3	5.5	30.0
1,2-Dichloropropane		93.1	78.6	126.4	5.1	30.0
1,3-Dichlorobenzene		93.1	77.0	131.3	5.6	30.0
1,4-Dichlorobenzene		94.1	20.7	137.7	5.6	30.0
cis-1,2-Dichloroethene		99.9	76.6	122.1	5.0	30.0
cis-1,3-Dichloropropene		91.1	79.8	129.9	4.2	30.0
Dibromochloromethane		96.1	74.6	127.2	5.1	30.0
Dibromomethane		98.7	76.9	122.1	1.6	30.0
Dichlorodifluoromethane		76.9	10.0	222.8	0.3	30.0
Diethyl ether		101.0	67.4	121.2	5.6	30.0
trans-1,2-Dichloroethene		100.7	73.6	129.3	1.1	30.0
trans-1,3-Dichloropropene		88.9	74.0	131.3	2.8	30.0
trans-1,4-Dichloro-2-butene		96.0	68.6	135.4	0.3	30.0
Ethylbenzene		92.5	79.5	129.1	7.6	30.0
2-Hexanone		95.9	55.4	136.9	5.1	30.0
Hexachloroethane		97.1	23.8	138.1	3.8	30.0
p-Isopropyltoluene		91.8	79.8	137.5	6.6	30.0
Isopropylbenzene		93.0	74.4	121.5	7.0	30.0
2-Methylnaphthalene		97.5	25.5	165.5	1.2	30.0
4-Methyl-2-pentanone (MIBK)		97.5	71.6	125.2	5.1	30.0
tert-Methyl butyl ether (MTBE)		115.4	73.2	122.4	7.4	30.0
Methyl iodide		107.8	68.8	116.4	3.2	30.0
Methylene chloride		100.7	73.3	121.1	4.9	30.0
Naphthalene		100.3	32.9	135.8	1.2	30.0
n-Propylbenzene		93.6	82.0	130.7	7.0	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 231002A7.5382616N, Parent Sample ID: 231002A7.5382615M

Run in Batch: 231002A7, Run Date: 10/02/2023 22:21, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Styrene		93.5	69.5	126.7	5.8	30.0
1,1,1,2-Tetrachloroethane		94.8	80.3	128.2	3.9	30.0
1,1,1-Trichloroethane		92.7	79.4	130.9	4.0	30.0
1,1,2,2-Tetrachloroethane		98.0	79.8	126.3	1.3	30.0
1,1,2-Trichloroethane		93.6	78.7	123.1	4.7	30.0
1,2,3-Trichlorobenzene		101.5	75.4	131.4	1.5	30.0
1,2,3-Trichloropropane		98.4	78.3	138.8	1.8	30.0
1,2,3-Trimethylbenzene		91.8	76.3	124.2	4.8	30.0
1,2,4-Trichlorobenzene		96.0	27.4	143.4	4.4	30.0
1,2,4-Trimethylbenzene		95.2	81.4	130.8	7.0	30.0
1,3,5-Trimethylbenzene		95.0	81.3	128.9	5.6	30.0
Tetrachloroethene		95.6	74.5	124.5	8.5	30.0
Tetrahydrofuran		91.2	59.0	117.9	14.2	30.0
Toluene		90.6	79.8	124.5	5.8	30.0
Trichloroethene		92.6	79.7	124.2	6.4	30.0
Trichlorofluoromethane		89.1	59.7	151.8	1.1	30.0
Vinyl chloride		83.5	43.5	149.1	0.5	30.0
o-Xylene		91.3	80.2	131.0	5.4	30.0
p,m-Xylene		93.2	79.4	132.2	6.9	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231002A7.5383306N, Parent Sample ID: 231002A7.5383305M

Run in Batch: 231002A7, Run Date: 10/02/2023 23:13, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		99.5	29.9	161.5	5.4	30.0
Acrylonitrile		109.1	69.9	128.9	1.9	30.0
2-Butanone (MEK)		102.4	44.0	134.4	3.6	30.0
Benzene		93.8	79.9	124.9	3.3	30.0
n-Butylbenzene		93.6	80.0	133.3	4.7	30.0
Bromobenzene		98.3	78.7	124.6	3.6	30.0
Bromochloromethane		93.8	78.2	120.8	9.6	30.0
Bromodichloromethane		91.0	80.4	128.2	5.8	30.0
Bromoform		98.4	69.4	128.0	2.3	30.0
Bromomethane		80.8	56.8	151.3	5.1	30.0
sec-Butylbenzene		93.0	77.4	129.8	4.6	30.0
tert-Butylbenzene		93.9	80.7	128.9	1.1	30.0
Carbon disulfide		96.3	63.8	137.4	2.3	30.0
Carbon tetrachloride		96.9	72.6	133.0	0.6	30.0
Chlorobenzene		96.3	79.2	122.7	1.0	30.0
Chloroethane		82.9	53.4	149.4	1.2	30.0
Chloroform		90.8	78.4	124.0	6.5	30.0
Chloromethane		78.8	23.8	166.5	3.5	30.0
1,1-Dichloroethane		95.2	71.5	126.2	5.6	30.0
1,1-Dichloroethene		96.3	69.6	139.4	2.3	30.0
1,2-Dibromo-3-chloropropane		105.6	21.2	189.4	5.8	30.0
1,2-Dibromoethane		101.6	70.3	133.7	0.4	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231002W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 231002A7.5383306N, Parent Sample ID: 231002A7.5383305M

Run in Batch: 231002A7, Run Date: 10/02/2023 23:13, Prep Date: 10/02/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2-Dichlorobenzene		95.2	10.0	166.2	0.1	30.0
1,2-Dichloroethane		89.0	76.0	126.3	5.1	30.0
1,2-Dichloropropane		94.2	78.6	126.4	6.2	30.0
1,3-Dichlorobenzene		94.0	77.0	131.3	1.5	30.0
1,4-Dichlorobenzene		94.8	20.7	137.7	1.8	30.0
cis-1,2-Dichloroethene		92.0	76.6	122.1	8.8	30.0
cis-1,3-Dichloropropene		92.1	79.8	129.9	8.5	30.0
Dibromochloromethane		99.3	74.6	127.2	2.4	30.0
Dibromomethane		99.2	76.9	122.1	5.3	30.0
Dichlorodifluoromethane		72.2	10.0	222.8	1.3	30.0
Diethyl ether		95.0	67.4	121.2	10.0	30.0
trans-1,2-Dichloroethene		96.0	73.6	129.3	3.1	30.0
trans-1,3-Dichloropropene		90.0	74.0	131.3	6.9	30.0
trans-1,4-Dichloro-2-butene		94.1	68.6	135.4	0.2	30.0
Ethylbenzene		95.8	79.5	129.1	1.2	30.0
2-Hexanone		102.0	55.4	136.9	2.0	30.0
Hexachloroethane		98.9	23.8	138.1	0.2	30.0
p-Isopropyltoluene		93.5	79.8	137.5	4.3	30.0
Isopropylbenzene		95.8	74.4	121.5	2.0	30.0
2-Methylnaphthalene		105.8	25.5	165.5	6.1	30.0
4-Methyl-2-pentanone (MIBK)		98.6	71.6	125.2	0.4	30.0
tert-Methyl butyl ether (MTBE)		107.6	73.2	122.4	7.9	30.0
Methyl iodide		100.3	68.8	116.4	6.9	30.0
Methylene chloride		94.4	73.3	121.1	9.1	30.0
Naphthalene		104.8	32.9	135.8	3.2	30.0
n-Propylbenzene		96.1	82.0	130.7	1.3	30.0
Styrene		97.3	69.5	126.7	1.8	30.0
1,1,1,2-Tetrachloroethane		96.8	80.3	128.2	3.9	30.0
1,1,1-Trichloroethane		92.5	79.4	130.9	3.9	30.0
1,1,2,2-Tetrachloroethane		99.7	79.8	126.3	0.8	30.0
1,1,2-Trichloroethane		96.7	78.7	123.1	4.7	30.0
1,2,3-Trichlorobenzene		105.8	75.4	131.4	3.7	30.0
1,2,3-Trichloropropane		100.0	78.3	138.8	1.7	30.0
1,2,3-Trimethylbenzene		92.8	76.3	124.2	0.6	30.0
1,2,4-Trichlorobenzene		100.2	27.4	143.4	1.3	30.0
1,2,4-Trimethylbenzene		97.4	81.4	130.8	1.6	30.0
1,3,5-Trimethylbenzene		98.5	81.3	128.9	1.0	30.0
Tetrachloroethene		98.8	74.5	124.5	0.8	30.0
Tetrahydrofuran		94.1	59.0	117.9	5.2	30.0
Toluene		92.9	79.8	124.5	3.4	30.0
Trichloroethene		92.4	79.7	124.2	1.7	30.0
Trichlorofluoromethane		84.5	59.7	151.8	0.6	30.0
Vinyl chloride		77.5	43.5	149.1	4.1	30.0
o-Xylene		93.6	80.2	131.0	1.0	30.0
p,m-Xylene		96.1	79.4	132.2	0.2	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231003W2

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

Blank (BLK)

Lab Sample ID: 231003A7.BLKW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 15:07, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231003W2 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 231003A7.BLKW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 15:07, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 231003A7.LCSW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 13:26, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		95.8	67.4	121.2
Acetone		80.3	29.9	161.5
Methyl iodide		97.3	68.8	116.4
Carbon disulfide		84.7	63.8	137.4
tert-Methyl butyl ether (MTBE)		108.1	73.2	122.4
Acrylonitrile		97.7	69.9	128.9
2-Butanone (MEK)		90.5	44.0	134.4
Dichlorodifluoromethane		70.6	10.0	222.8
Chloromethane		79.0	23.8	166.5
Vinyl chloride		78.0	43.5	149.1
Bromomethane		80.9	56.8	151.3
Chloroethane		80.5	53.4	149.4
Trichlorofluoromethane		81.3	59.7	151.8
1,1-Dichloroethene		89.3	69.6	139.4
Methylene chloride		98.0	73.3	121.1
trans-1,2-Dichloroethene		93.7	73.6	129.3
1,1-Dichloroethane		94.9	71.5	126.2
cis-1,2-Dichloroethene		101.7	76.6	122.1
Tetrahydrofuran		79.6	59.0	117.9
Chloroform		94.4	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231003W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231003A7.LCSW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 13:26, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		100.1	78.2	120.8
1,1,1-Trichloroethane		93.1	79.4	130.9
4-Methyl-2-pentanone (MIBK)		95.6	71.6	125.2
2-Hexanone		100.0	55.4	136.9
Carbon tetrachloride		99.6	72.6	133.0
Benzene		98.2	79.9	124.9
1,2-Dichloroethane		95.4	76.0	126.3
Trichloroethene		98.1	79.7	124.2
1,2-Dichloropropane		101.1	78.6	126.4
Bromodichloromethane		98.8	80.4	128.2
Dibromomethane		106.9	76.9	122.1
cis-1,3-Dichloropropene		102.3	79.8	129.9
Toluene		97.8	79.8	124.5
trans-1,3-Dichloropropene		98.1	74.0	131.3
1,1,2-Trichloroethane		102.4	78.7	123.1
Tetrachloroethene		100.7	74.5	124.5
trans-1,4-Dichloro-2-butene		95.0	68.6	135.4
Dibromochloromethane		102.4	74.6	127.2
1,2-Dibromoethane		101.7	70.3	133.7
Chlorobenzene		98.8	79.2	122.7
1,1,1,2-Tetrachloroethane		100.8	80.3	128.2
Ethylbenzene		96.1	79.5	129.1
p,m-Xylene		96.6	79.4	132.2
o-Xylene		95.4	80.2	131.0
Styrene		101.5	69.5	126.7
Isopropylbenzene		95.9	74.4	121.5
Bromoform		99.1	69.4	128.0
1,1,2,2-Tetrachloroethane		98.4	79.8	126.3
1,2,3-Trichloropropane		97.2	78.3	138.8
n-Propylbenzene		96.3	82.0	130.7
Bromobenzene		103.8	78.7	124.6
1,3,5-Trimethylbenzene		99.5	81.3	128.9
tert-Butylbenzene		94.6	80.7	128.9
1,2,4-Trimethylbenzene		99.5	81.4	130.8
sec-Butylbenzene		91.1	77.4	129.8
p-Isopropyltoluene		92.6	79.8	137.5
1,3-Dichlorobenzene		96.8	77.0	131.3
1,4-Dichlorobenzene		97.2	20.7	137.7
1,2-Dichlorobenzene		96.7	10.0	166.2
1,2,3-Trimethylbenzene		91.1	76.3	124.2
n-Butylbenzene		92.0	80.0	133.3
Hexachloroethane		96.7	23.8	138.1
1,2-Dibromo-3-chloropropane		94.8	21.2	189.4
1,2,4-Trichlorobenzene		101.6	27.4	143.4
1,2,3-Trichlorobenzene		104.3	75.4	131.4
Naphthalene		99.0	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231003W2 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231003A7.LCSW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 13:26, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		98.1	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231003A7.LCSDW03A, Parent Sample ID: 231003A7.LCSW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 13:51, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		97.1	67.4	121.2	1.3	30.0
Acetone		97.5	29.9	161.5	19.3	30.0
Methyl iodide		98.4	68.8	116.4	1.1	30.0
Carbon disulfide		86.9	63.8	137.4	2.5	30.0
tert-Methyl butyl ether (MTBE)		113.1	73.2	122.4	4.5	30.0
Acrylonitrile		115.2	69.9	128.9	16.4	30.0
2-Butanone (MEK)		112.3	44.0	134.4	21.5	30.0
Dichlorodifluoromethane		74.2	10.0	222.8	5.0	30.0
Chloromethane		78.6	23.8	166.5	0.4	30.0
Vinyl chloride		81.2	43.5	149.1	4.0	30.0
Bromomethane		81.5	56.8	151.3	0.7	30.0
Chloroethane		82.0	53.4	149.4	1.9	30.0
Trichlorofluoromethane		85.5	59.7	151.8	5.0	30.0
1,1-Dichloroethene		93.5	69.6	139.4	4.6	30.0
Methylene chloride		97.5	73.3	121.1	0.5	30.0
trans-1,2-Dichloroethene		96.6	73.6	129.3	3.0	30.0
1,1-Dichloroethane		95.5	71.5	126.2	0.6	30.0
cis-1,2-Dichloroethene		97.5	76.6	122.1	4.2	30.0
Tetrahydrofuran		100.9	59.0	117.9	23.6	30.0
Chloroform		93.2	78.4	124.0	1.3	30.0
Bromochloromethane		97.3	78.2	120.8	2.8	30.0
1,1,1-Trichloroethane		94.6	79.4	130.9	1.6	30.0
4-Methyl-2-pentanone (MIBK)		110.7	71.6	125.2	14.6	30.0
2-Hexanone		116.2	55.4	136.9	15.0	30.0
Carbon tetrachloride		101.9	72.6	133.0	2.2	30.0
Benzene		98.2	79.9	124.9	0.1	30.0
1,2-Dichloroethane		95.2	76.0	126.3	0.2	30.0
Trichloroethene		100.3	79.7	124.2	2.1	30.0
1,2-Dichloropropane		100.3	78.6	126.4	0.8	30.0
Bromodichloromethane		97.3	80.4	128.2	1.5	30.0
Dibromomethane		107.8	76.9	122.1	0.8	30.0
cis-1,3-Dichloropropene		100.2	79.8	129.9	2.0	30.0
Toluene		99.5	79.8	124.5	1.7	30.0
trans-1,3-Dichloropropene		98.7	74.0	131.3	0.6	30.0
1,1,2-Trichloroethane		104.0	78.7	123.1	1.5	30.0
Tetrachloroethene		105.4	74.5	124.5	4.5	30.0
trans-1,4-Dichloro-2-butene		113.4	68.6	135.4	17.6	30.0
Dibromochloromethane		107.1	74.6	127.2	4.4	30.0
1,2-Dibromoethane		108.0	70.3	133.7	6.0	30.0
Chlorobenzene		101.9	79.2	122.7	3.0	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231003W2 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 231003A7.LCSDW03A, Parent Sample ID: 231003A7.LCSW03A

Run in Batch: 231003A7, Run Date: 10/03/2023 13:51, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		102.8	80.3	128.2	2.0	30.0
Ethylbenzene		101.7	79.5	129.1	5.7	30.0
p,m-Xylene		102.7	79.4	132.2	6.1	30.0
o-Xylene		100.4	80.2	131.0	5.1	30.0
Styrene		104.3	69.5	126.7	2.7	30.0
Isopropylbenzene		101.6	74.4	121.5	5.9	30.0
Bromoform		108.0	69.4	128.0	8.6	30.0
1,1,2,2-Tetrachloroethane		110.3	79.8	126.3	11.4	30.0
1,2,3-Trichloropropane		110.9	78.3	138.8	13.2	30.0
n-Propylbenzene		102.2	82.0	130.7	5.9	30.0
Bromobenzene		106.4	78.7	124.6	2.5	30.0
1,3,5-Trimethylbenzene		105.8	81.3	128.9	6.1	30.0
tert-Butylbenzene		100.2	80.7	128.9	5.7	30.0
1,2,4-Trimethylbenzene		105.2	81.4	130.8	5.6	30.0
sec-Butylbenzene		99.8	77.4	129.8	9.1	30.0
p-Isopropyltoluene		99.7	79.8	137.5	7.3	30.0
1,3-Dichlorobenzene		101.0	77.0	131.3	4.3	30.0
1,4-Dichlorobenzene		102.0	20.7	137.7	4.8	30.0
1,2-Dichlorobenzene		101.0	10.0	166.2	4.4	30.0
1,2,3-Trimethylbenzene		97.5	76.3	124.2	6.8	30.0
n-Butylbenzene		100.6	80.0	133.3	9.0	30.0
Hexachloroethane		103.5	23.8	138.1	6.8	30.0
1,2-Dibromo-3-chloropropane		119.8	21.2	189.4	23.4	30.0
1,2,4-Trichlorobenzene		110.2	27.4	143.4	8.1	30.0
1,2,3-Trichlorobenzene		115.9	75.4	131.4	10.5	30.0
Naphthalene		116.3	32.9	135.8	16.0	30.0
2-Methylnaphthalene		118.7	25.5	165.5	19.0	30.0

Matrix Spike (MS)

Lab Sample ID: 231003A7.5388510M, Parent Sample ID: S53885.09

Run in Batch: 231003A7, Run Date: 10/03/2023 23:17, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1000

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		96.4	67.4	121.2
Acetone		79.9	29.9	161.5
Methyl iodide		99.5	68.8	116.4
Carbon disulfide		83.2	63.8	137.4
tert-Methyl butyl ether (MTBE)		107.5	73.2	122.4
Acrylonitrile		95.6	69.9	128.9
2-Butanone (MEK)		87.7	44.0	134.4
Dichlorodifluoromethane		69.4	10.0	222.8
Chloromethane		80.2	23.8	166.5
Vinyl chloride		79.2	43.5	149.1
Bromomethane		83.2	56.8	151.3
Chloroethane		82.9	53.4	149.4
Trichlorofluoromethane		82.3	59.7	151.8
1,1-Dichloroethene		91.3	69.6	139.4

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231003W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 231003A7.5388510M, Parent Sample ID: S53885.09

Run in Batch: 231003A7, Run Date: 10/03/2023 23:17, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1000

Analyte	Flags	% Rec	LCL	UCL
Methylene chloride		101.1	73.3	121.1
trans-1,2-Dichloroethene		95.3	73.6	129.3
1,1-Dichloroethane		98.3	71.5	126.2
cis-1,2-Dichloroethene		111.7	76.6	122.1
Tetrahydrofuran		74.9	59.0	117.9
Chloroform		96.9	78.4	124.0
Bromochloromethane		102.2	78.2	120.8
1,1,1-Trichloroethane		94.0	79.4	130.9
4-Methyl-2-pentanone (MIBK)		85.3	71.6	125.2
2-Hexanone		87.1	55.4	136.9
Carbon tetrachloride		98.3	72.6	133.0
Benzene		100.0	79.9	124.9
1,2-Dichloroethane		96.1	76.0	126.3
Trichloroethene		103.1	79.7	124.2
1,2-Dichloropropane		100.9	78.6	126.4
Bromodichloromethane		99.2	80.4	128.2
Dibromomethane		104.8	76.9	122.1
cis-1,3-Dichloropropene		98.8	79.8	129.9
Toluene		98.9	79.8	124.5
trans-1,3-Dichloropropene		93.5	74.0	131.3
1,1,2-Trichloroethane		101.1	78.7	123.1
Tetrachloroethene		100.4	74.5	124.5
trans-1,4-Dichloro-2-butene		80.8	68.6	135.4
Dibromochloromethane		99.4	74.6	127.2
1,2-Dibromoethane		99.7	70.3	133.7
Chlorobenzene		101.4	79.2	122.7
1,1,1,2-Tetrachloroethane		102.9	80.3	128.2
Ethylbenzene		98.3	79.5	129.1
p,m-Xylene		100.1	79.4	132.2
o-Xylene		97.9	80.2	131.0
Styrene		103.6	69.5	126.7
Isopropylbenzene		97.6	74.4	121.5
Bromoform		90.0	69.4	128.0
1,1,2,2-Tetrachloroethane		93.9	79.8	126.3
1,2,3-Trichloropropane		94.2	78.3	138.8
n-Propylbenzene		97.2	82.0	130.7
Bromobenzene		104.9	78.7	124.6
1,3,5-Trimethylbenzene		100.6	81.3	128.9
tert-Butylbenzene		95.0	80.7	128.9
1,2,4-Trimethylbenzene		101.4	81.4	130.8
sec-Butylbenzene		91.6	77.4	129.8
p-Isopropyltoluene		93.0	79.8	137.5
1,3-Dichlorobenzene		97.3	77.0	131.3
1,4-Dichlorobenzene		97.6	20.7	137.7
1,2-Dichlorobenzene		99.4	10.0	166.2
1,2,3-Trimethylbenzene		95.1	76.3	124.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231003W2 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 231003A7.5388510M, Parent Sample ID: S53885.09

Run in Batch: 231003A7, Run Date: 10/03/2023 23:17, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1000

Analyte	Flags	% Rec	LCL	UCL
n-Butylbenzene		91.8	80.0	133.3
Hexachloroethane		94.6	23.8	138.1
1,2-Dibromo-3-chloropropane		87.8	21.2	189.4
1,2,4-Trichlorobenzene		98.2	27.4	143.4
1,2,3-Trichlorobenzene		101.0	75.4	131.4
Naphthalene		92.2	32.9	135.8
2-Methylnaphthalene		78.7	25.5	165.5

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231003A7.5388511N, Parent Sample ID: 231003A7.5388510M

Run in Batch: 231003A7, Run Date: 10/03/2023 23:42, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1000

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		90.4	67.4	121.2	6.4	30.0
Acetone		83.5	29.9	161.5	4.4	30.0
Methyl iodide		97.0	68.8	116.4	2.5	30.0
Carbon disulfide		84.9	63.8	137.4	2.1	30.0
tert-Methyl butyl ether (MTBE)		104.9	73.2	122.4	2.4	30.0
Acrylonitrile		103.8	69.9	128.9	8.2	30.0
2-Butanone (MEK)		96.4	44.0	134.4	9.4	30.0
Dichlorodifluoromethane		71.0	10.0	222.8	2.3	30.0
Chloromethane		81.4	23.8	166.5	1.5	30.0
Vinyl chloride		81.1	43.5	149.1	2.3	30.0
Bromomethane		80.3	56.8	151.3	3.5	30.0
Chloroethane		80.7	53.4	149.4	2.6	30.0
Trichlorofluoromethane		84.9	59.7	151.8	3.1	30.0
1,1-Dichloroethene		92.8	69.6	139.4	1.6	30.0
Methylene chloride		94.3	73.3	121.1	6.9	30.0
trans-1,2-Dichloroethene		94.8	73.6	129.3	0.6	30.0
1,1-Dichloroethane		96.5	71.5	126.2	1.8	30.0
cis-1,2-Dichloroethene		102.7	76.6	122.1	5.3	30.0
Tetrahydrofuran		77.8	59.0	117.9	3.6	30.0
Chloroform		93.1	78.4	124.0	4.0	30.0
Bromochloromethane		95.4	78.2	120.8	6.9	30.0
1,1,1-Trichloroethane		94.6	79.4	130.9	0.7	30.0
4-Methyl-2-pentanone (MIBK)		100.6	71.6	125.2	16.5	30.0
2-Hexanone		105.0	55.4	136.9	18.7	30.0
Carbon tetrachloride		105.6	72.6	133.0	7.1	30.0
Benzene		99.9	79.9	124.9	0.0	30.0
1,2-Dichloroethane		92.6	76.0	126.3	3.6	30.0
Trichloroethene		107.9	79.7	124.2	3.6	30.0
1,2-Dichloropropane		99.3	78.6	126.4	1.5	30.0
Bromodichloromethane		95.9	80.4	128.2	3.4	30.0
Dibromomethane		104.3	76.9	122.1	0.4	30.0
cis-1,3-Dichloropropene		96.5	79.8	129.9	2.4	30.0
Toluene		99.8	79.8	124.5	0.9	30.0
trans-1,3-Dichloropropene		92.6	74.0	131.3	0.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231003W2 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 231003A7.5388511N, Parent Sample ID: 231003A7.5388510M

Run in Batch: 231003A7, Run Date: 10/03/2023 23:42, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1000

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloroethane		99.7	78.7	123.1	1.4	30.0
Tetrachloroethene		106.1	74.5	124.5	5.6	30.0
trans-1,4-Dichloro-2-butene		92.2	68.6	135.4	13.1	30.0
Dibromochloromethane		101.6	74.6	127.2	2.2	30.0
1,2-Dibromoethane		103.1	70.3	133.7	3.3	30.0
Chlorobenzene		102.2	79.2	122.7	0.8	30.0
1,1,1,2-Tetrachloroethane		103.7	80.3	128.2	0.8	30.0
Ethylbenzene		103.7	79.5	129.1	5.3	30.0
p,m-Xylene		102.9	79.4	132.2	2.7	30.0
o-Xylene		100.7	80.2	131.0	2.9	30.0
Styrene		104.2	69.5	126.7	0.6	30.0
Isopropylbenzene		104.4	74.4	121.5	6.7	30.0
Bromoform		97.4	69.4	128.0	7.9	30.0
1,1,2,2-Tetrachloroethane		104.3	79.8	126.3	10.5	30.0
1,2,3-Trichloropropane		104.6	78.3	138.8	10.4	30.0
n-Propylbenzene		104.1	82.0	130.7	6.9	30.0
Bromobenzene		104.8	78.7	124.6	0.0	30.0
1,3,5-Trimethylbenzene		105.9	81.3	128.9	5.1	30.0
tert-Butylbenzene		102.3	80.7	128.9	7.4	30.0
1,2,4-Trimethylbenzene		106.5	81.4	130.8	4.8	30.0
sec-Butylbenzene		99.8	77.4	129.8	8.6	30.0
p-Isopropyltoluene		100.4	79.8	137.5	7.6	30.0
1,3-Dichlorobenzene		100.0	77.0	131.3	2.7	30.0
1,4-Dichlorobenzene		100.1	20.7	137.7	2.5	30.0
1,2-Dichlorobenzene		100.5	10.0	166.2	1.1	30.0
1,2,3-Trimethylbenzene		97.0	76.3	124.2	2.0	30.0
n-Butylbenzene		100.0	80.0	133.3	8.6	30.0
Hexachloroethane		104.1	23.8	138.1	9.6	30.0
1,2-Dibromo-3-chloropropane		104.4	21.2	189.4	17.3	30.0
1,2,4-Trichlorobenzene		102.6	27.4	143.4	4.3	30.0
1,2,3-Trichlorobenzene		108.0	75.4	131.4	6.7	30.0
Naphthalene		106.3	32.9	135.8	14.2	30.0
2-Methylnaphthalene		100.8	25.5	165.5	24.5	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005S1

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

Blank (BLK)

Lab Sample ID: 231005A5.BLKS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 14:55, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	50.0	ug/kg
Acetone		ND	500.0	ug/kg
Methyl iodide		ND	50.0	ug/kg
Carbon disulfide		ND	50.0	ug/kg
tert-Methyl butyl ether (MTBE)		ND	50.0	ug/kg
Acrylonitrile		ND	50.0	ug/kg
2-Butanone (MEK)		ND	500.0	ug/kg
Dichlorodifluoromethane		ND	50.0	ug/kg
Chloromethane		ND	50.0	ug/kg
Vinyl chloride		ND	50.0	ug/kg
Bromomethane		ND	50.0	ug/kg
Chloroethane		ND	50.0	ug/kg
Trichlorofluoromethane		ND	50.0	ug/kg
1,1-Dichloroethene		ND	50.0	ug/kg
Methylene chloride		ND	50.0	ug/kg
trans-1,2-Dichloroethene		ND	50.0	ug/kg
1,1-Dichloroethane		ND	50.0	ug/kg
cis-1,2-Dichloroethene		ND	50.0	ug/kg
Tetrahydrofuran		ND	500.0	ug/kg
Chloroform		ND	50.0	ug/kg
Bromochloromethane		ND	50.0	ug/kg
1,1,1-Trichloroethane		ND	50.0	ug/kg
4-Methyl-2-pentanone (MIBK)		ND	500.0	ug/kg
2-Hexanone		ND	500.0	ug/kg
Carbon tetrachloride		ND	50.0	ug/kg
Benzene		ND	50.0	ug/kg
1,2-Dichloroethane		ND	50.0	ug/kg
Trichloroethene		ND	50.0	ug/kg
1,2-Dichloropropane		ND	50.0	ug/kg
Bromodichloromethane		ND	50.0	ug/kg
Dibromomethane		ND	50.0	ug/kg
cis-1,3-Dichloropropene		ND	50.0	ug/kg
Toluene		ND	50.0	ug/kg
trans-1,3-Dichloropropene		ND	50.0	ug/kg
1,1,2-Trichloroethane		ND	50.0	ug/kg
Tetrachloroethene		ND	50.0	ug/kg
trans-1,4-Dichloro-2-butene		ND	50.0	ug/kg
Dibromochloromethane		ND	50.0	ug/kg
1,2-Dibromoethane		ND	50.0	ug/kg
Chlorobenzene		ND	50.0	ug/kg
1,1,1,2-Tetrachloroethane		ND	50.0	ug/kg
Ethylbenzene		ND	50.0	ug/kg
p,m-Xylene		ND	50.0	ug/kg
o-Xylene		ND	50.0	ug/kg
Styrene		ND	50.0	ug/kg
Isopropylbenzene		ND	50.0	ug/kg

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005S1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 231005A5.BLKS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 14:55, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	50.0	ug/kg
1,1,2,2-Tetrachloroethane		ND	50.0	ug/kg
1,2,3-Trichloropropane		ND	50.0	ug/kg
n-Propylbenzene		ND	50.0	ug/kg
Bromobenzene		ND	50.0	ug/kg
1,3,5-Trimethylbenzene		ND	50.0	ug/kg
tert-Butylbenzene		ND	50.0	ug/kg
1,2,4-Trimethylbenzene		ND	50.0	ug/kg
sec-Butylbenzene		ND	50.0	ug/kg
p-Isopropyltoluene		ND	50.0	ug/kg
1,3-Dichlorobenzene		ND	50.0	ug/kg
1,4-Dichlorobenzene		ND	50.0	ug/kg
1,2-Dichlorobenzene		ND	50.0	ug/kg
1,2,3-Trimethylbenzene		ND	50.0	ug/kg
n-Butylbenzene		ND	50.0	ug/kg
Hexachloroethane		ND	50.0	ug/kg
1,2-Dibromo-3-chloropropane		ND	50.0	ug/kg
1,2,4-Trichlorobenzene		ND	50.0	ug/kg
1,2,3-Trichlorobenzene		ND	50.0	ug/kg
Naphthalene		ND	50.0	ug/kg
2-Methylnaphthalene		ND	50.0	ug/kg

Laboratory Control Sample (LCS)

Lab Sample ID: 231005A5.LCSS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 12:56, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		119.7	51.7	123.0
Acetone		82.8	25.3	155.1
Methyl iodide	*	129.8	56.9	110.8
Carbon disulfide	*	129.9	57.0	123.0
tert-Methyl butyl ether (MTBE)		108.8	67.5	123.7
Acrylonitrile		116.7	58.7	133.0
2-Butanone (MEK)		95.3	38.7	136.9
Dichlorodifluoromethane		110.8	10.0	171.8
Chloromethane		114.8	30.2	152.7
Vinyl chloride		109.2	45.3	138.7
Bromomethane		99.8	10.0	157.4
Chloroethane		110.7	10.0	169.1
Trichlorofluoromethane		104.5	25.7	157.8
1,1-Dichloroethene		122.8	59.2	137.5
Methylene chloride		116.8	70.5	121.5
trans-1,2-Dichloroethene		121.7	72.5	128.8
1,1-Dichloroethane		117.6	72.5	123.4
cis-1,2-Dichloroethene		118.7	75.0	120.5
Tetrahydrofuran		98.2	48.2	125.7
Chloroform		115.2	74.6	123.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005S1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231005A5.LCSS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 12:56, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		116.0	72.3	122.8
1,1,1-Trichloroethane		121.9	73.8	128.9
4-Methyl-2-pentanone (MIBK)		99.1	60.4	133.8
2-Hexanone		96.9	45.7	141.9
Carbon tetrachloride		125.7	70.1	132.7
Benzene		120.9	74.6	128.9
1,2-Dichloroethane		116.3	73.2	125.4
Trichloroethene		119.2	74.1	127.6
1,2-Dichloropropane		116.1	77.6	124.4
Bromodichloromethane		118.1	76.7	128.4
Dibromomethane		115.3	72.5	127.3
cis-1,3-Dichloropropene		118.1	79.3	128.3
Toluene		116.6	74.8	129.2
trans-1,3-Dichloropropene		117.0	74.5	129.7
1,1,2-Trichloroethane		109.0	71.3	125.7
Tetrachloroethene		119.8	73.0	124.7
trans-1,4-Dichloro-2-butene		112.1	58.3	143.3
Dibromochloromethane		111.0	68.9	132.7
1,2-Dibromoethane		107.5	71.4	129.3
Chlorobenzene		107.4	74.2	128.1
1,1,1,2-Tetrachloroethane		112.0	76.6	133.0
Ethylbenzene		110.5	77.7	130.4
p,m-Xylene		109.9	79.8	132.0
o-Xylene		107.8	79.4	132.3
Styrene		108.5	71.3	119.3
Isopropylbenzene		108.4	70.3	128.2
Bromoform		109.7	54.7	137.4
1,1,2,2-Tetrachloroethane		102.9	65.4	134.9
1,2,3-Trichloropropane		103.9	67.2	154.5
n-Propylbenzene		107.1	77.3	135.2
Bromobenzene		108.5	74.0	132.4
1,3,5-Trimethylbenzene		108.0	75.6	137.0
tert-Butylbenzene		106.8	75.6	134.6
1,2,4-Trimethylbenzene		108.6	76.9	139.1
sec-Butylbenzene		105.6	72.7	135.6
p-Isopropyltoluene		105.9	77.1	140.9
1,3-Dichlorobenzene		105.3	77.3	131.0
1,4-Dichlorobenzene		104.3	33.1	125.8
1,2-Dichlorobenzene		102.7	73.5	132.7
1,2,3-Trimethylbenzene		99.0	70.9	130.2
n-Butylbenzene		108.0	75.0	138.6
Hexachloroethane		103.9	55.5	129.0
1,2-Dibromo-3-chloropropane		100.3	54.1	156.4
1,2,4-Trichlorobenzene		108.7	37.1	131.3
1,2,3-Trichlorobenzene		104.8	59.4	157.9
Naphthalene		102.3	39.3	129.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005S1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231005A5.LCSS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 12:56, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		105.8	10.0	175.9

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231005A5.LCSDS05A, Parent Sample ID: 231005A5.LCSS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 13:20, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		114.1	51.7	123.0	4.8	30.0
Acetone		105.4	25.3	155.1	24.0	30.0
Methyl iodide	*	119.6	56.9	110.8	8.1	30.0
Carbon disulfide	*	126.4	57.0	123.0	2.8	30.0
tert-Methyl butyl ether (MTBE)		109.9	67.5	123.7	1.0	30.0
Acrylonitrile		119.1	58.7	133.0	2.1	30.0
2-Butanone (MEK)		101.0	38.7	136.9	5.8	30.0
Dichlorodifluoromethane		110.0	10.0	171.8	0.7	30.0
Chloromethane	*	82.8	30.2	152.7	32.4	30.0
Vinyl chloride		106.6	45.3	138.7	2.4	30.0
Bromomethane		100.4	10.0	157.4	0.6	30.0
Chloroethane		107.9	10.0	169.1	2.5	30.0
Trichlorofluoromethane		105.1	25.7	157.8	0.5	30.0
1,1-Dichloroethene		122.2	59.2	137.5	0.5	30.0
Methylene chloride		113.9	70.5	121.5	2.5	30.0
trans-1,2-Dichloroethene		117.8	72.5	128.8	3.3	30.0
1,1-Dichloroethane		114.4	72.5	123.4	2.8	30.0
cis-1,2-Dichloroethene		115.5	75.0	120.5	2.7	30.0
Tetrahydrofuran		105.3	48.2	125.7	6.9	30.0
Chloroform		111.0	74.6	123.2	3.7	30.0
Bromochloromethane		114.3	72.3	122.8	1.5	30.0
1,1,1-Trichloroethane		118.8	73.8	128.9	2.5	30.0
4-Methyl-2-pentanone (MIBK)		104.8	60.4	133.8	5.6	30.0
2-Hexanone		102.6	45.7	141.9	5.7	30.0
Carbon tetrachloride		122.9	70.1	132.7	2.2	30.0
Benzene		116.5	74.6	128.9	3.7	30.0
1,2-Dichloroethane		112.9	73.2	125.4	2.9	30.0
Trichloroethene		114.6	74.1	127.6	4.0	30.0
1,2-Dichloropropane		112.0	77.6	124.4	3.5	30.0
Bromodichloromethane		114.2	76.7	128.4	3.4	30.0
Dibromomethane		111.2	72.5	127.3	3.6	30.0
cis-1,3-Dichloropropene		115.2	79.3	128.3	2.5	30.0
Toluene		113.2	74.8	129.2	2.9	30.0
trans-1,3-Dichloropropene		115.7	74.5	129.7	1.1	30.0
1,1,2-Trichloroethane		107.4	71.3	125.7	1.4	30.0
Tetrachloroethene		115.8	73.0	124.7	3.4	30.0
trans-1,4-Dichloro-2-butene		112.4	58.3	143.3	0.2	30.0
Dibromochloromethane		109.7	68.9	132.7	1.1	30.0
1,2-Dibromoethane		108.8	71.4	129.3	1.2	30.0
Chlorobenzene		103.9	74.2	128.1	3.3	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005S1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 231005A5.LCSDS05A, Parent Sample ID: 231005A5.LCSS05A

Run in Batch: 231005A5, Run Date: 10/05/2023 13:20, Prep Date: 10/05/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		109.1	76.6	133.0	2.6	30.0
Ethylbenzene		106.2	77.7	130.4	3.9	30.0
p,m-Xylene		106.2	79.8	132.0	3.4	30.0
o-Xylene		104.8	79.4	132.3	2.8	30.0
Styrene		105.4	71.3	119.3	2.9	30.0
Isopropylbenzene		106.8	70.3	128.2	1.4	30.0
Bromoform		109.5	54.7	137.4	0.2	30.0
1,1,2,2-Tetrachloroethane		104.6	65.4	134.9	1.6	30.0
1,2,3-Trichloropropane		104.9	67.2	154.5	0.9	30.0
n-Propylbenzene		105.1	77.3	135.2	1.9	30.0
Bromobenzene		104.2	74.0	132.4	4.0	30.0
1,3,5-Trimethylbenzene		105.9	75.6	137.0	2.0	30.0
tert-Butylbenzene		104.6	75.6	134.6	2.1	30.0
1,2,4-Trimethylbenzene		105.1	76.9	139.1	3.2	30.0
sec-Butylbenzene		102.8	72.7	135.6	2.7	30.0
p-Isopropyltoluene		104.9	77.1	140.9	0.9	30.0
1,3-Dichlorobenzene		99.8	77.3	131.0	5.4	30.0
1,4-Dichlorobenzene		100.1	33.1	125.8	4.1	30.0
1,2-Dichlorobenzene		99.4	73.5	132.7	3.2	30.0
1,2,3-Trimethylbenzene		96.3	70.9	130.2	2.8	30.0
n-Butylbenzene		103.8	75.0	138.6	4.0	30.0
Hexachloroethane		100.7	55.5	129.0	3.1	30.0
1,2-Dibromo-3-chloropropane		107.7	54.1	156.4	7.1	30.0
1,2,4-Trichlorobenzene		105.0	37.1	131.3	3.4	30.0
1,2,3-Trichlorobenzene		104.1	59.4	157.9	0.7	30.0
Naphthalene		104.9	39.3	129.2	2.5	30.0
2-Methylnaphthalene		107.7	10.0	175.9	1.8	30.0

Matrix Spike (MS)

Lab Sample ID: 231005A5.5382610M, Parent Sample ID: S53826.09

Run in Batch: 231005A5, Run Date: 10/05/2023 13:44, Prep Date: 10/05/2023, Matrix: SO, Dilution: 61.8

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		111.4	51.7	123.0
Acetone		90.6	25.3	155.1
Methyl iodide	*	120.4	56.9	110.8
Carbon disulfide		122.8	57.0	123.0
tert-Methyl butyl ether (MTBE)		104.4	67.5	123.7
Acrylonitrile		114.2	58.7	133.0
2-Butanone (MEK)		91.6	38.7	136.9
Dichlorodifluoromethane		103.4	10.0	171.8
Chloromethane		106.1	30.2	152.7
Vinyl chloride		103.2	45.3	138.7
Bromomethane		93.2	10.0	157.4
Chloroethane		101.1	10.0	169.1
Trichlorofluoromethane		100.9	25.7	157.8
1,1-Dichloroethene		117.7	59.2	137.5

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005S1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 231005A5.5382610M, Parent Sample ID: S53826.09

Run in Batch: 231005A5, Run Date: 10/05/2023 13:44, Prep Date: 10/05/2023, Matrix: SO, Dilution: 61.8

Analyte	Flags	% Rec	LCL	UCL
Methylene chloride		110.0	70.5	121.5
trans-1,2-Dichloroethene		115.5	72.5	128.8
1,1-Dichloroethane		112.2	72.5	123.4
cis-1,2-Dichloroethene		112.6	75.0	120.5
Tetrahydrofuran		94.0	48.2	125.7
Chloroform		108.9	74.6	123.2
Bromochloromethane		112.4	72.3	122.8
1,1,1-Trichloroethane		115.4	73.8	128.9
4-Methyl-2-pentanone (MIBK)		97.3	60.4	133.8
2-Hexanone		95.3	45.7	141.9
Carbon tetrachloride		119.0	70.1	132.7
Benzene		113.6	74.6	128.9
1,2-Dichloroethane		110.9	73.2	125.4
Trichloroethene		112.5	74.1	127.6
1,2-Dichloropropane		110.3	77.6	124.4
Bromodichloromethane		111.4	76.7	128.4
Dibromomethane		108.3	72.5	127.3
cis-1,3-Dichloropropene		112.1	79.3	128.3
Toluene		110.1	74.8	129.2
trans-1,3-Dichloropropene		113.1	74.5	129.7
1,1,2-Trichloroethane		104.1	71.3	125.7
Tetrachloroethene		113.3	73.0	124.7
trans-1,4-Dichloro-2-butene		107.3	58.3	143.3
Dibromochloromethane		106.6	68.9	132.7
1,2-Dibromoethane		104.0	71.4	129.3
Chlorobenzene		102.5	74.2	128.1
1,1,1,2-Tetrachloroethane		106.3	76.6	133.0
Ethylbenzene		104.0	77.7	130.4
p,m-Xylene		104.6	79.8	132.0
o-Xylene		102.2	79.4	132.3
Styrene		102.8	71.3	119.3
Isopropylbenzene		104.1	70.3	128.2
Bromoform		105.6	54.7	137.4
1,1,2,2-Tetrachloroethane		99.7	65.4	134.9
1,2,3-Trichloropropane		98.8	67.2	154.5
n-Propylbenzene		103.7	77.3	135.2
Bromobenzene		102.7	74.0	132.4
1,3,5-Trimethylbenzene		104.4	75.6	137.0
tert-Butylbenzene		102.3	75.6	134.6
1,2,4-Trimethylbenzene		104.3	76.9	139.1
sec-Butylbenzene		101.9	72.7	135.6
p-Isopropyltoluene		102.2	77.1	140.9
1,3-Dichlorobenzene		100.0	77.3	131.0
1,4-Dichlorobenzene		98.4	33.1	125.8
1,2-Dichlorobenzene		98.1	73.5	132.7
1,2,3-Trimethylbenzene		94.8	70.9	130.2

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005S1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 231005A5.5382610M, Parent Sample ID: S53826.09

Run in Batch: 231005A5, Run Date: 10/05/2023 13:44, Prep Date: 10/05/2023, Matrix: SO, Dilution: 61.8

Analyte	Flags	% Rec	LCL	UCL
n-Butylbenzene		103.8	75.0	138.6
Hexachloroethane		100.3	55.5	129.0
1,2-Dibromo-3-chloropropane		99.1	54.1	156.4
1,2,4-Trichlorobenzene		104.0	37.1	131.3
1,2,3-Trichlorobenzene		101.8	59.4	157.9
Naphthalene		101.1	39.3	129.2
2-Methylnaphthalene		103.2	10.0	175.9

Matrix Spike (MS)

Lab Sample ID: 231005A5.5404901M, Parent Sample ID: S54049.01

Run in Batch: 231005A5, Run Date: 10/05/2023 22:30, Prep Date: 10/05/2023, Matrix: WW, Dilution: 100

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether	*	140.2	51.7	123.0
Acetone		77.7	25.3	155.1
Methyl iodide	*	113.9	56.9	110.8
Carbon disulfide		113.3	57.0	123.0
tert-Methyl butyl ether (MTBE)		96.6	67.5	123.7
Acrylonitrile		101.7	58.7	133.0
2-Butanone (MEK)		85.5	38.7	136.9
Dichlorodifluoromethane		92.1	10.0	171.8
Chloromethane		94.2	30.2	152.7
Vinyl chloride		94.8	45.3	138.7
Bromomethane		121.8	10.0	157.4
Chloroethane		128.7	10.0	169.1
Trichlorofluoromethane		102.1	25.7	157.8
1,1-Dichloroethene		108.2	59.2	137.5
Methylene chloride		102.7	70.5	121.5
trans-1,2-Dichloroethene		103.9	72.5	128.8
1,1-Dichloroethane		102.3	72.5	123.4
cis-1,2-Dichloroethene		105.1	75.0	120.5
Tetrahydrofuran		84.7	48.2	125.7
Chloroform		103.8	74.6	123.2
Bromochloromethane		106.7	72.3	122.8
1,1,1-Trichloroethane		110.1	73.8	128.9
4-Methyl-2-pentanone (MIBK)		90.4	60.4	133.8
2-Hexanone		87.7	45.7	141.9
Carbon tetrachloride		114.3	70.1	132.7
Benzene		105.9	74.6	128.9
1,2-Dichloroethane		105.3	73.2	125.4
Trichloroethene		106.4	74.1	127.6
1,2-Dichloropropane		103.8	77.6	124.4
Bromodichloromethane		109.2	76.7	128.4
Dibromomethane		105.5	72.5	127.3
cis-1,3-Dichloropropene		106.5	79.3	128.3
Toluene		104.1	74.8	129.2
trans-1,3-Dichloropropene		106.6	74.5	129.7

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005S1 (continued)

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

Matrix Spike (MS) (continued)

Lab Sample ID: 231005A5.5404901M, Parent Sample ID: S54049.01

Run in Batch: 231005A5, Run Date: 10/05/2023 22:30, Prep Date: 10/05/2023, Matrix: WW, Dilution: 100

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloroethane		99.9	71.3	125.7
Tetrachloroethene		107.3	73.0	124.7
trans-1,4-Dichloro-2-butene		97.8	58.3	143.3
Dibromochloromethane		106.2	68.9	132.7
1,2-Dibromoethane		100.4	71.4	129.3
Chlorobenzene		98.0	74.2	128.1
1,1,1,2-Tetrachloroethane		104.1	76.6	133.0
Ethylbenzene		97.9	77.7	130.4
p,m-Xylene		99.0	79.8	132.0
o-Xylene		95.9	79.4	132.3
Styrene		96.7	71.3	119.3
Isopropylbenzene		97.0	70.3	128.2
Bromoform		108.1	54.7	137.4
1,1,2,2-Tetrachloroethane		93.9	65.4	134.9
1,2,3-Trichloropropane		94.8	67.2	154.5
n-Propylbenzene		95.1	77.3	135.2
Bromobenzene		98.5	74.0	132.4
1,3,5-Trimethylbenzene		95.4	75.6	137.0
tert-Butylbenzene		95.4	75.6	134.6
1,2,4-Trimethylbenzene		95.6	76.9	139.1
sec-Butylbenzene		92.3	72.7	135.6
p-Isopropyltoluene		91.8	77.1	140.9
1,3-Dichlorobenzene		92.0	77.3	131.0
1,4-Dichlorobenzene		91.2	33.1	125.8
1,2-Dichlorobenzene		91.0	73.5	132.7
1,2,3-Trimethylbenzene		87.8	70.9	130.2
n-Butylbenzene		90.3	75.0	138.6
Hexachloroethane		95.4	55.5	129.0
1,2-Dibromo-3-chloropropane		96.4	54.1	156.4
1,2,4-Trichlorobenzene		87.9	37.1	131.3
1,2,3-Trichlorobenzene		89.1	59.4	157.9
Naphthalene		89.2	39.3	129.2
2-Methylnaphthalene		85.6	10.0	175.9

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231005A5.5382611N, Parent Sample ID: 231005A5.5382610M

Run in Batch: 231005A5, Run Date: 10/05/2023 14:07, Prep Date: 10/05/2023, Matrix: SO, Dilution: 60.5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		110.1	51.7	123.0	1.2	30.0
Acetone		81.0	25.3	155.1	10.4	30.0
Methyl iodide	*	112.8	56.9	110.8	6.6	30.0
Carbon disulfide		119.6	57.0	123.0	2.6	30.0
tert-Methyl butyl ether (MTBE)		101.1	67.5	123.7	3.2	30.0
Acrylonitrile		109.6	58.7	133.0	4.1	30.0
2-Butanone (MEK)		94.1	38.7	136.9	2.7	30.0
Dichlorodifluoromethane		98.0	10.0	171.8	5.3	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005S1 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 231005A5.5382611N, Parent Sample ID: 231005A5.5382610M

Run in Batch: 231005A5, Run Date: 10/05/2023 14:07, Prep Date: 10/05/2023, Matrix: SO, Dilution: 60.5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chloromethane		101.0	30.2	152.7	4.9	30.0
Vinyl chloride		101.4	45.3	138.7	1.8	30.0
Bromomethane		98.4	10.0	157.4	5.5	30.0
Chloroethane		107.1	10.0	169.1	5.8	30.0
Trichlorofluoromethane		98.0	25.7	157.8	2.9	30.0
1,1-Dichloroethene		113.7	59.2	137.5	3.5	30.0
Methylene chloride		104.7	70.5	121.5	5.0	30.0
trans-1,2-Dichloroethene		110.3	72.5	128.8	4.6	30.0
1,1-Dichloroethane		107.9	72.5	123.4	3.9	30.0
cis-1,2-Dichloroethene		107.1	75.0	120.5	5.0	30.0
Tetrahydrofuran		97.4	48.2	125.7	3.4	30.0
Chloroform		104.2	74.6	123.2	4.4	30.0
Bromochloromethane		108.5	72.3	122.8	3.6	30.0
1,1,1-Trichloroethane		113.2	73.8	128.9	2.0	30.0
4-Methyl-2-pentanone (MIBK)		100.3	60.4	133.8	3.0	30.0
2-Hexanone		98.2	45.7	141.9	3.0	30.0
Carbon tetrachloride		115.5	70.1	132.7	2.9	30.0
Benzene		110.6	74.6	128.9	2.7	30.0
1,2-Dichloroethane		106.3	73.2	125.4	4.2	30.0
Trichloroethene		109.5	74.1	127.6	2.7	30.0
1,2-Dichloropropane		106.2	77.6	124.4	3.8	30.0
Bromodichloromethane		106.8	76.7	128.4	4.3	30.0
Dibromomethane		105.7	72.5	127.3	2.4	30.0
cis-1,3-Dichloropropene		107.8	79.3	128.3	3.9	30.0
Toluene		105.9	74.8	129.2	3.9	30.0
trans-1,3-Dichloropropene		107.1	74.5	129.7	5.5	30.0
1,1,2-Trichloroethane		101.6	71.3	125.7	2.4	30.0
Tetrachloroethene		111.9	73.0	124.7	1.2	30.0
trans-1,4-Dichloro-2-butene		106.3	58.3	143.3	0.9	30.0
Dibromochloromethane		102.4	68.9	132.7	4.0	30.0
1,2-Dibromoethane		101.4	71.4	129.3	2.6	30.0
Chlorobenzene		98.1	74.2	128.1	4.4	30.0
1,1,1,2-Tetrachloroethane		101.9	76.6	133.0	4.2	30.0
Ethylbenzene		100.6	77.7	130.4	3.4	30.0
p,m-Xylene		100.6	79.8	132.0	3.9	30.0
o-Xylene		97.6	79.4	132.3	4.6	30.0
Styrene		98.9	71.3	119.3	3.9	30.0
Isopropylbenzene		99.8	70.3	128.2	4.2	30.0
Bromoform		103.2	54.7	137.4	2.3	30.0
1,1,2,2-Tetrachloroethane		97.3	65.4	134.9	2.4	30.0
1,2,3-Trichloropropane		97.3	67.2	154.5	1.5	30.0
n-Propylbenzene		99.2	77.3	135.2	4.4	30.0
Bromobenzene		97.9	74.0	132.4	4.8	30.0
1,3,5-Trimethylbenzene		97.9	75.6	137.0	6.5	30.0
tert-Butylbenzene		97.1	75.6	134.6	5.2	30.0
1,2,4-Trimethylbenzene		97.9	76.9	139.1	6.3	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005S1 (continued)

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

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 231005A5.5382611N, Parent Sample ID: 231005A5.5382610M

Run in Batch: 231005A5, Run Date: 10/05/2023 14:07, Prep Date: 10/05/2023, Matrix: SO, Dilution: 60.5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
sec-Butylbenzene		96.4	72.7	135.6	5.6	30.0
p-Isopropyltoluene		97.1	77.1	140.9	5.2	30.0
1,3-Dichlorobenzene		94.2	77.3	131.0	5.9	30.0
1,4-Dichlorobenzene		92.9	33.1	125.8	5.7	30.0
1,2-Dichlorobenzene		92.2	73.5	132.7	6.2	30.0
1,2,3-Trimethylbenzene		89.6	70.9	130.2	5.6	30.0
n-Butylbenzene		98.3	75.0	138.6	5.5	30.0
Hexachloroethane		94.9	55.5	129.0	5.5	30.0
1,2-Dibromo-3-chloropropane		99.2	54.1	156.4	0.1	30.0
1,2,4-Trichlorobenzene		98.4	37.1	131.3	5.5	30.0
1,2,3-Trichlorobenzene		95.7	59.4	157.9	6.2	30.0
Naphthalene		97.7	39.3	129.2	3.3	30.0
2-Methylnaphthalene		101.4	10.0	175.9	1.8	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005W4

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

Blank (BLK)

Lab Sample ID: 231005B7.BLKW05B

Run in Batch: 231005B7, Run Date: 10/06/2023 00:40, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005W4 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 231005B7.BLKW05B

Run in Batch: 231005B7, Run Date: 10/06/2023 00:40, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 231005B7.LCSW05B

Run in Batch: 231005B7, Run Date: 10/05/2023 23:06, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		99.7	67.4	121.2
Acetone		79.5	29.9	161.5
Methyl iodide		108.5	68.8	116.4
Carbon disulfide		102.7	63.8	137.4
tert-Methyl butyl ether (MTBE)		94.8	73.2	122.4
Acrylonitrile		96.5	69.9	128.9
2-Butanone (MEK)		87.3	44.0	134.4
Dichlorodifluoromethane		83.2	10.0	222.8
Chloromethane		95.8	23.8	166.5
Vinyl chloride		94.6	43.5	149.1
Bromomethane		95.0	56.8	151.3
Chloroethane		96.8	53.4	149.4
Trichlorofluoromethane		98.6	59.7	151.8
1,1-Dichloroethene		102.2	69.6	139.4
Methylene chloride		101.5	73.3	121.1
trans-1,2-Dichloroethene		101.1	73.6	129.3
1,1-Dichloroethane		101.3	71.5	126.2
cis-1,2-Dichloroethene		103.4	76.6	122.1
Tetrahydrofuran		89.1	59.0	117.9
Chloroform		100.6	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005W4 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231005B7.LCSW05B

Run in Batch: 231005B7, Run Date: 10/05/2023 23:06, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		104.3	78.2	120.8
1,1,1-Trichloroethane		105.1	79.4	130.9
4-Methyl-2-pentanone (MIBK)		96.6	71.6	125.2
2-Hexanone		99.0	55.4	136.9
Carbon tetrachloride		110.6	72.6	133.0
Benzene		106.8	79.9	124.9
1,2-Dichloroethane		100.4	76.0	126.3
Trichloroethene		108.7	79.7	124.2
1,2-Dichloropropane		108.3	78.6	126.4
Bromodichloromethane		107.6	80.4	128.2
Dibromomethane		111.0	76.9	122.1
cis-1,3-Dichloropropene		109.2	79.8	129.9
Toluene		107.6	79.8	124.5
trans-1,3-Dichloropropene		103.1	74.0	131.3
1,1,2-Trichloroethane		105.9	78.7	123.1
Tetrachloroethene		114.1	74.5	124.5
trans-1,4-Dichloro-2-butene		100.0	68.6	135.4
Dibromochloromethane		112.8	74.6	127.2
1,2-Dibromoethane		109.7	70.3	133.7
Chlorobenzene		109.5	79.2	122.7
1,1,1,2-Tetrachloroethane		112.9	80.3	128.2
Ethylbenzene		108.7	79.5	129.1
p,m-Xylene		110.3	79.4	132.2
o-Xylene		108.8	80.2	131.0
Styrene		110.5	69.5	126.7
Isopropylbenzene		111.6	74.4	121.5
Bromoform		109.9	69.4	128.0
1,1,2,2-Tetrachloroethane		104.0	79.8	126.3
1,2,3-Trichloropropane		104.9	78.3	138.8
n-Propylbenzene		111.1	82.0	130.7
Bromobenzene		114.0	78.7	124.6
1,3,5-Trimethylbenzene		113.5	81.3	128.9
tert-Butylbenzene		109.5	80.7	128.9
1,2,4-Trimethylbenzene		112.8	81.4	130.8
sec-Butylbenzene		109.4	77.4	129.8
p-Isopropyltoluene		109.4	79.8	137.5
1,3-Dichlorobenzene		109.5	77.0	131.3
1,4-Dichlorobenzene		110.2	20.7	137.7
1,2-Dichlorobenzene		109.8	10.0	166.2
1,2,3-Trimethylbenzene		105.7	76.3	124.2
n-Butylbenzene		107.3	80.0	133.3
Hexachloroethane		117.1	23.8	138.1
1,2-Dibromo-3-chloropropane		108.1	21.2	189.4
1,2,4-Trichlorobenzene		109.7	27.4	143.4
1,2,3-Trichlorobenzene		111.6	75.4	131.4
Naphthalene		106.4	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005W4 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231005B7.LCSW05B

Run in Batch: 231005B7, Run Date: 10/05/2023 23:06, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		95.1	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231005B7.LCSDW05B, Parent Sample ID: 231005B7.LCSW05B

Run in Batch: 231005B7, Run Date: 10/05/2023 23:29, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		109.5	67.4	121.2	9.3	30.0
Acetone		78.5	29.9	161.5	1.3	30.0
Methyl iodide		106.6	68.8	116.4	1.8	30.0
Carbon disulfide		94.8	63.8	137.4	8.0	30.0
tert-Methyl butyl ether (MTBE)		104.9	73.2	122.4	10.1	30.0
Acrylonitrile		103.2	69.9	128.9	6.7	30.0
2-Butanone (MEK)		93.4	44.0	134.4	6.8	30.0
Dichlorodifluoromethane		75.4	10.0	222.8	9.9	30.0
Chloromethane		91.9	23.8	166.5	4.2	30.0
Vinyl chloride		87.5	43.5	149.1	7.8	30.0
Bromomethane		94.3	56.8	151.3	0.7	30.0
Chloroethane		91.8	53.4	149.4	5.3	30.0
Trichlorofluoromethane		88.9	59.7	151.8	10.3	30.0
1,1-Dichloroethene		95.8	69.6	139.4	6.4	30.0
Methylene chloride		103.3	73.3	121.1	1.8	30.0
trans-1,2-Dichloroethene		98.5	73.6	129.3	2.6	30.0
1,1-Dichloroethane		100.5	71.5	126.2	0.8	30.0
cis-1,2-Dichloroethene		105.2	76.6	122.1	1.7	30.0
Tetrahydrofuran		94.5	59.0	117.9	5.9	30.0
Chloroform		102.2	78.4	124.0	1.6	30.0
Bromochloromethane		111.1	78.2	120.8	6.3	30.0
1,1,1-Trichloroethane		100.8	79.4	130.9	4.2	30.0
4-Methyl-2-pentanone (MIBK)		105.0	71.6	125.2	8.3	30.0
2-Hexanone		108.8	55.4	136.9	9.5	30.0
Carbon tetrachloride		101.4	72.6	133.0	8.7	30.0
Benzene		103.1	79.9	124.9	3.5	30.0
1,2-Dichloroethane		104.2	76.0	126.3	3.7	30.0
Trichloroethene		102.3	79.7	124.2	6.1	30.0
1,2-Dichloropropane		108.5	78.6	126.4	0.2	30.0
Bromodichloromethane		108.7	80.4	128.2	1.1	30.0
Dibromomethane		116.2	76.9	122.1	4.6	30.0
cis-1,3-Dichloropropene		112.8	79.8	129.9	3.3	30.0
Toluene		103.4	79.8	124.5	4.0	30.0
trans-1,3-Dichloropropene		109.9	74.0	131.3	6.4	30.0
1,1,2-Trichloroethane		110.9	78.7	123.1	4.6	30.0
Tetrachloroethene		105.6	74.5	124.5	7.8	30.0
trans-1,4-Dichloro-2-butene		100.7	68.6	135.4	0.8	30.0
Dibromochloromethane		113.2	74.6	127.2	0.3	30.0
1,2-Dibromoethane		109.2	70.3	133.7	0.5	30.0
Chlorobenzene		104.6	79.2	122.7	4.5	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231005W4 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 231005B7.LCSDW05B, Parent Sample ID: 231005B7.LCSW05B

Run in Batch: 231005B7, Run Date: 10/05/2023 23:29, Prep Date: 10/05/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		111.1	80.3	128.2	1.6	30.0
Ethylbenzene		100.6	79.5	129.1	7.7	30.0
p,m-Xylene		101.9	79.4	132.2	7.9	30.0
o-Xylene		102.3	80.2	131.0	6.2	30.0
Styrene		108.2	69.5	126.7	2.2	30.0
Isopropylbenzene		99.9	74.4	121.5	11.0	30.0
Bromoform		113.3	69.4	128.0	3.0	30.0
1,1,2,2-Tetrachloroethane		104.3	79.8	126.3	0.3	30.0
1,2,3-Trichloropropane		106.9	78.3	138.8	1.9	30.0
n-Propylbenzene		100.7	82.0	130.7	9.8	30.0
Bromobenzene		110.7	78.7	124.6	3.0	30.0
1,3,5-Trimethylbenzene		105.0	81.3	128.9	7.8	30.0
tert-Butylbenzene		99.5	80.7	128.9	9.5	30.0
1,2,4-Trimethylbenzene		104.5	81.4	130.8	7.6	30.0
sec-Butylbenzene		93.1	77.4	129.8	16.0	30.0
p-Isopropyltoluene		94.4	79.8	137.5	14.7	30.0
1,3-Dichlorobenzene		101.5	77.0	131.3	7.6	30.0
1,4-Dichlorobenzene		102.9	20.7	137.7	6.9	30.0
1,2-Dichlorobenzene		102.1	10.0	166.2	7.3	30.0
1,2,3-Trimethylbenzene		96.9	76.3	124.2	8.7	30.0
n-Butylbenzene		93.1	80.0	133.3	14.2	30.0
Hexachloroethane		104.4	23.8	138.1	11.5	30.0
1,2-Dibromo-3-chloropropane		106.6	21.2	189.4	1.4	30.0
1,2,4-Trichlorobenzene		105.2	27.4	143.4	4.2	30.0
1,2,3-Trichlorobenzene		108.6	75.4	131.4	2.8	30.0
Naphthalene		105.1	32.9	135.8	1.2	30.0
2-Methylnaphthalene		101.7	25.5	165.5	6.7	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS231003S1

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

Blank (BLK)

Lab Sample ID: 231003A9.BLKS03A

Run in Batch: 231003A9, Run Date: 10/03/2023 14:23, Prep Date: 10/03/2023, Matrix: SO, Dilution: 50

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	18	1	ug/kg

Laboratory Control Sample (LCS)

Lab Sample ID: 231003A9.LCSS03A

Run in Batch: 231003A9, Run Date: 10/03/2023 12:58, Prep Date: 10/03/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		88.9	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231003A9.LCSDS03A, Parent Sample ID: 231003A9.LCSS03A

Run in Batch: 231003A9, Run Date: 10/03/2023 13:20, Prep Date: 10/03/2023, Matrix: SO, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		90.3	70.0	130.0	1.6	30.0

Matrix Spike (MS)

Lab Sample ID: 231003A9.5382610M, Parent Sample ID: S53826.09

Run in Batch: 231003A9, Run Date: 10/03/2023 19:18, Prep Date: 10/03/2023, Matrix: SO, Dilution: 61.8

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		84.9	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231003A9.5382611N, Parent Sample ID: 231003A9.5382610M

Run in Batch: 231003A9, Run Date: 10/03/2023 19:39, Prep Date: 10/03/2023, Matrix: SO, Dilution: 60.5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		82.5	70.0	130.0	2.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS231003W1

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

Blank (BLK)

Lab Sample ID: 231003B9.BLKS03B

Run in Batch: 231003B9, Run Date: 10/03/2023 22:48, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.57	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 231003B9.LCSS03B

Run in Batch: 231003B9, Run Date: 10/03/2023 21:24, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		87.2	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231003B9.LCSDS03B, Parent Sample ID: 231003B9.LCSS03B

Run in Batch: 231003B9, Run Date: 10/03/2023 21:45, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		87.9	70.0	130.0	0.8	30.0

Matrix Spike (MS)

Lab Sample ID: 231003B9.5382615M, Parent Sample ID: S53826.14

Run in Batch: 231003B9, Run Date: 10/04/2023 02:15, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		84.0	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 231003B9.5382616N, Parent Sample ID: 231003B9.5382615M

Run in Batch: 231003B9, Run Date: 10/04/2023 02:36, Prep Date: 10/03/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		86.3	70.0	130.0	2.5	30.0

Merit Laboratories Login Checklist

Lab Set ID:S53826

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30171056.04100 / RACER Lansing

Submitted:09/27/2023 12:15 Login User: MMC

Attention: Kaitlyn Hunt

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 FAX:

Email: Kaitlyn.Hunt@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☐ Yes ☒ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 9.8
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____



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

C.O.C. PAGE # 1 OF 2 164849

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME <u>Carlton Cisco</u>			
COMPANY <u>Arcadis</u>			
ADDRESS <u>28550 Cabot Drive, Suite 500</u>			
CITY <u>Novi</u>	STATE <u>MI</u>	ZIP CODE <u>48377</u>	
PHONE NO. <u>248-722-2411</u>	CELL NO.	P.O. NO.	
E-MAIL ADDRESS <u>Carlton.Cisco@arcadis.com</u>		QUOTE NO.	

CONTACT NAME <u>SAME</u>	
COMPANY	
ADDRESS	
CITY	STATE ZIP CODE
PHONE NO.	E-MAIL ADDRESS

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME <u>30171056.04100 / RACER Lansing</u>	SAMPLER(S) - PLEASE PRINT/SIGN NAME <u>Justin Westhuis / Am L.W.C.</u>
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER	
DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER	

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

Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	1,4-dioxane	VOCs											☒ Other <u>MI</u>								
	DATE	TIME																							Special Instructions								
53826.01	9/26/23	1415	VAP-P2-NL58_1-2	S	2	1					1		X	X																			
.02	9/26/23	1420	VAP-P2-NL58_3.5-4.5	S	2	1					1		X	X																			
.03	9/26/23	1425	VAP-P2-NL58_7-8	S	2	1					1		X	X																			
.04	9/26/23	1430	VAP-P2-NL58_10-11	S	2	1					1		X	X																			
.05	9/26/23	1445	VAP-P2-NL58_10-15	GW	3		3						X	X																			
.06	9/26/23	1600	VAP-P2-NL58_21-24.5	GW	3		3						X	X																			
.07	9/26/23	---	DuP-01_092623	GW	3		3						X	X																			
.08	9/26/23	1640	VAP-P2-NP59_1-2	S	2	1					1		X	X																			
.09/10/11	9/26/23	1645	VAP-P2-NP59_3-4	S	6	3					3		X	X																			ms/msd
.12	9/26/23	1650	VAP-P2-NP59_6-7	S	2	1					1		X	X																			
.13	9/26/23	1655	VAP-P2-NP59_9-10	S	2	1					1		X	X																			
.14/15/16	9/26/23	1710	VAP-P2-NP59_10-15	GW	9		9						X	X																			ms/msd

RELINQUISHED BY: SIGNATURE/ORGANIZATION <u>Am L.W.C. / Arcadis</u>	DATE <u>9/27/23</u>	TIME <u>1215</u>
RECEIVED BY: SIGNATURE/ORGANIZATION <u>Merit Drop Box</u>	DATE <u>9/27/23</u>	TIME <u>1215</u>
RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION <u>Merit Drop Box</u>	DATE <u>9/27/23</u>	TIME <u>1215</u>		
RECEIVED BY: SIGNATURE/ORGANIZATION <u>M Chilcote</u>	DATE <u>9/27/23</u>	TIME <u>1215</u>		
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES	TEMP. ON ARRIVAL
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

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



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C.O.C. PAGE # 2 OF 2

164850

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME <u>Caitlin Cisco</u>			
COMPANY <u>Arcadis</u>			
ADDRESS <u>28550 Cabot Lane, Suite 500</u>			
CITY <u>Novi</u>	STATE <u>MI</u>	ZIP CODE <u>48377</u>	
PHONE NO. <u>248-722-2411</u>	CELL NO.	P.O. NO.	QUOTE NO.
E-MAIL ADDRESS <u>Caitlin.Cisco@arcadis.com</u>			

CONTACT NAME <u>SAME</u>	
COMPANY	
ADDRESS	
CITY	STATE ZIP CODE
PHONE NO.	E-MAIL ADDRESS

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME <u>30171056.04100/RACER Lansing</u>	SAMPLER(S) - PLEASE PRINT/SIGN NAME <u>Austin Westhuis</u>
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER	
DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER	

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

Containers & Preservatives

Certifications

☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☒ Other MI

Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	Other <u>MI</u> Special Instructions																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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53826.17	9/26/23	—	DUP-02-092623	S	2	1					1		X	X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

RELINQUISHED BY: SIGNATURE/ORGANIZATION <u>AuLW/L / Arcadis</u>	DATE <u>9/27/23</u>	TIME <u>1215</u>
RECEIVED BY: SIGNATURE/ORGANIZATION <u>Merit Drop Box</u>	DATE <u>9/27/23</u>	TIME <u>1215</u>
RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION <u>Merit Drop Box</u>	DATE <u>9/27/23</u>	TIME <u>1215</u>
RECEIVED BY: SIGNATURE/ORGANIZATION <u>M. Chilcoat</u>	DATE <u>9/27/23</u>	TIME <u>1215</u>
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
NOTES:		TEMP ON ARRIVAL <u>9.8</u>

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



Analytical Laboratory Report

Report ID: S54934.01(01)
Generated on 10/26/2023

Report to
Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 C:947-777-5215 FAX:
Email: Kaitlyn.Hunt@arcadis.com

Additional Contacts: Marina Samp, Tiffany Linder, Caitlin Cisco

Report produced by
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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): S54934.01-S54934.10
Project: 30171056.0470A / RACER Lansing GWS
Collected Date(s): 10/24/2023
Submitted Date/Time: 10/24/2023 16:50
Sampled by: Austin Westhuis
P.O. #: US3460011441

Table of Contents

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- General Report Notes (Page 2)
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- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
- Sample Summary (Page 5)


Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

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, and 2-chloroethylvinyl ether 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.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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
N/A	Not Applicable
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (10 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S54934.01	MW-23-161_102423	Groundwater	10/24/23 11:50
S54934.02	MW-23-162_102423	Groundwater	10/24/23 12:55
S54934.03	MW-23-163_102423	Groundwater	10/24/23 14:10
S54934.04	MW-22-155_102423	Groundwater	10/24/23 15:20
S54934.05	MW-14-58R_102423	Groundwater	10/24/23 13:00
S54934.06	MW-22-153_102423	Groundwater	10/24/23 14:00
S54934.07	MW-22-156_102423	Groundwater	10/24/23 15:15
S54934.08	MW-22-157_102423	Groundwater	10/24/23 16:30
S54934.09	DUP-03_102423	Groundwater	10/24/23 00:01
S54934.10	Trip Blank	Water	10/24/23 00:01



Analytical Laboratory Report

Lab Sample ID: S54934.01

Sample Tag: MW-23-161_102423

Collected Date/Time: 10/24/2023 11:50

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/26/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/26/23 15:30, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	54	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 17:56, Analyst: NDK

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



Analytical Laboratory Report

Lab Sample ID: S54934.01 (continued)

Sample Tag: MW-23-161_102423

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 17:56, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S54934.02

Sample Tag: MW-23-162_102423

Collected Date/Time: 10/24/2023 12:55

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/26/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/26/23 16:02, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	28	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 18:15, Analyst: NDK

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



Analytical Laboratory Report

Lab Sample ID: S54934.02 (continued)

Sample Tag: MW-23-162_102423

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 18:15, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S54934.03

Sample Tag: MW-23-163_102423

Collected Date/Time: 10/24/2023 14:10

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/26/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/26/23 16:23, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	12	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 18:36, Analyst: NDK

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



Analytical Laboratory Report

Lab Sample ID: S54934.03 (continued)

Sample Tag: MW-23-163_102423

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 18:36, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S54934.04

Sample Tag: MW-22-155_102423

Collected Date/Time: 10/24/2023 15:20

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/26/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/26/23 16:44, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	176	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 18:56, Analyst: NDK

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



Analytical Laboratory Report

Lab Sample ID: S54934.04 (continued)

Sample Tag: MW-22-155_102423

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 18:56, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S54934.05

Sample Tag: MW-14-58R_102423

Collected Date/Time: 10/24/2023 13:00

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/26/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/26/23 17:05, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	194	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 19:15, Analyst: NDK

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



Analytical Laboratory Report

Lab Sample ID: S54934.05 (continued)

Sample Tag: MW-14-58R_102423

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 19:15, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S54934.06

Sample Tag: MW-22-153_102423

Collected Date/Time: 10/24/2023 14:00

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/26/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/26/23 17:27, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	101	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 19:34, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	37	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	



Analytical Laboratory Report

Lab Sample ID: S54934.06 (continued)

Sample Tag: MW-22-153_102423

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 19:34, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S54934.07

Sample Tag: MW-22-156_102423

Collected Date/Time: 10/24/2023 15:15

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/26/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/26/23 17:48, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	140	10		ug/L	10	123-91-1	Y

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 21:12, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	Not detected	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	Not detected	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	20	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	280	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	Not detected	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S54934.07 (continued)

Sample Tag: MW-22-156_102423

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 21:12, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	Not detected	10		ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S54934.08

Sample Tag: MW-22-157_102423

Collected Date/Time: 10/24/2023 16:30

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/26/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/26/23 18:09, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	115	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 19:54, Analyst: NDK

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



Analytical Laboratory Report

Lab Sample ID: S54934.08 (continued)

Sample Tag: MW-22-157_102423

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 19:54, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S54934.09

Sample Tag: DUP-03_102423

Collected Date/Time: 10/24/2023 00:01

Matrix: Groundwater

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/26/23 12:01	ACK	

Organics - Volatiles

Method: SW8260B - SIM, Run Date: 10/26/23 18:29, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dioxane*	56	1		ug/L	1	123-91-1	

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 20:13, Analyst: NDK

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



Analytical Laboratory Report

Lab Sample ID: S54934.09 (continued)

Sample Tag: DUP-03_102423

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 20:13, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



Analytical Laboratory Report

Lab Sample ID: S54934.10

Sample Tag: Trip Blank

Collected Date/Time: 10/24/2023 00:01

Matrix: Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	2.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	10/26/23 12:01	ACK	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 14:58, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S54934.10 (continued)

Sample Tag: Trip Blank

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 10/25/23 14:58, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S54934

Client:ARCADIS_NOVI (ARCADIS U.S., Inc.)

Project: 30171056.0470A / RACER Lansing GWS

Submitted: 10/24/2023 16:50 Login User: PFD

Attention: Kaitlyn Hunt

Address: Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: O:248-809-4013 FAX:

Email: Kaitlyn.Hunt@arcadis.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 2.8
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☐ Yes ☐ No ☒ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____

Plant 2

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

C.O.C. PAGE # 1 OF 1**REPORT TO****CHAIN OF CUSTODY RECORD****INVOICE TO**

CONTACT NAME Tiffany Linder, Kaitlyn Hunt
 COMPANY Arcadis
 ADDRESS 28550 Cabot Drive, STE 500
 CITY Novi STATE MI ZIP CODE 48377
 PHONE NO. 947-777-5215 FAX NO. P.O. NO. US3460011441
 E-MAIL ADDRESS kaitlyn.hunt@arcadis.com QUOTE NO.

CONTACT NAME ☐ SAME
 COMPANY
 ADDRESS
 CITY STATE ZIP CODE
 PHONE NO. E-MAIL ADDRESS tiffany.linder@arcadis.com

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)PROJECT NO./NAME 30171056.0470A / RACER Lansing GWS SAMPLER(S) - PLEASE PRINT/SIGN NAME Austin Westhuis / Am La WTURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☒ OTHER RUSH 1 DAYDELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☒ EDD ☐ OTHER

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

Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	1,4-Dic	VOC											☐ Other _____																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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RELINQUISHED BY: Am La W / Arcadis 22 Sample DATE 10/24/23 TIME 1650
 RECEIVED BY: Merit Prop Box DATE 10/24/23 TIME 1650
 RELINQUISHED BY: DATE TIME
 RECEIVED BY: DATE TIME
 RELINQUISHED BY: DATE TIME
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RELINQUISHED BY: M. B. / Prop Box DATE 10/24/23 TIME 1650
 RECEIVED BY: Pat W DATE 10/24/23 TIME 1650
 SEAL NO. SEAL INTACT INITIALS
 YES ☐ NO ☐
 SEAL NO. SEAL INTACT INITIALS
 YES ☐ NO ☐
 NOTES 2.8 TEMP. ON ARRIVAL

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

Rev 5.10.17



Quality Control Report

Report ID: QC-S54934-01
Generated on 10/27/2023

Report to

Attention: Kaitlyn Hunt
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Report Produced by

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2680 East Lansing Drive
East Lansing, MI 48823

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Report Summary

Lab Sample ID(s): S54934.01-S54934.10
Project: 30171056.0470A / RACER Lansing GWS
Submitted Date/Time: 10/24/2023 16:50
Sampled by: Austin Westhuis
P.O. #: US3460011441

QC Report Sections

Cover Page (Page 1)
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Prep Batch Summary (Page 12)
Surrogates per Lab Sample (Pages 13-22)
Surrogates per QC Sample (Pages 23-24)
Batch QC Results (Pages 25-30)

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: S54934.01

Sample Tag: MW-23-161_102423

Collected Date/Time: 10/24/2023 11:50

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/26/23 15:30	231026A9	VS231026W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 17:56	231025A9	VF231025W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S54934.02

Sample Tag: MW-23-162_102423

Collected Date/Time: 10/24/2023 12:55

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/26/23 16:02	231026A9	VS231026W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 18:15	231025A9	VF231025W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S54934.03

Sample Tag: MW-23-163_102423

Collected Date/Time: 10/24/2023 14:10

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/26/23 16:23	231026A9	VS231026W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 18:36	231025A9	VF231025W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S54934.04

Sample Tag: MW-22-155_102423

Collected Date/Time: 10/24/2023 15:20

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/26/23 16:44	231026A9	VS231026W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 18:56	231025A9	VF231025W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S54934.05

Sample Tag: MW-14-58R_102423

Collected Date/Time: 10/24/2023 13:00

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/26/23 17:05	231026A9	VS231026W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 19:15	231025A9	VF231025W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S54934.06

Sample Tag: MW-22-153_102423

Collected Date/Time: 10/24/2023 14:00

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/26/23 17:27	231026A9	VS231026W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 19:34	231025A9	VF231025W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S54934.07

Sample Tag: MW-22-156_102423

Collected Date/Time: 10/24/2023 15:15

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/26/23 17:48	231026A9	VS231026W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 21:12	231025A9	VF231025W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S54934.08

Sample Tag: MW-22-157_102423

Collected Date/Time: 10/24/2023 16:30

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/26/23 18:09	231026A9	VS231026W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 19:54	231025A9	VF231025W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S54934.09

Sample Tag: DUP-03_102423

Collected Date/Time: 10/24/2023 00:01

Matrix: Groundwater

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,4-Dioxane	SW8260B - SIM	10/26/23 18:29	231026A9	VS231026W1	Yes	BLK/LCS/LCSD
Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 20:13	231025A9	VF231025W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S54934.10

Sample Tag: Trip Blank

Collected Date/Time: 10/24/2023 00:01

Matrix: Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 14:58	231025A9	VF231025W1	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF231025W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S54934.01	Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 17:56	231025A9
S54934.02	Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 18:15	231025A9
S54934.03	Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 18:36	231025A9
S54934.04	Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 18:56	231025A9
S54934.05	Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 19:15	231025A9
S54934.06	Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 19:34	231025A9
S54934.07	Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 21:12	231025A9
S54934.08	Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 19:54	231025A9
S54934.09	Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 20:13	231025A9
S54934.10	Volatile Organics - DEQ List	SW5030C/8260C	10/25/23 14:58	231025A9

Organics - Volatiles, Prep Batch ID: VS231026W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S54934.01	1,4-Dioxane	SW8260B - SIM	10/26/23 15:30	231026A9
S54934.02	1,4-Dioxane	SW8260B - SIM	10/26/23 16:02	231026A9
S54934.03	1,4-Dioxane	SW8260B - SIM	10/26/23 16:23	231026A9
S54934.04	1,4-Dioxane	SW8260B - SIM	10/26/23 16:44	231026A9
S54934.05	1,4-Dioxane	SW8260B - SIM	10/26/23 17:05	231026A9
S54934.06	1,4-Dioxane	SW8260B - SIM	10/26/23 17:27	231026A9
S54934.07	1,4-Dioxane	SW8260B - SIM	10/26/23 17:48	231026A9
S54934.08	1,4-Dioxane	SW8260B - SIM	10/26/23 18:09	231026A9
S54934.09	1,4-Dioxane	SW8260B - SIM	10/26/23 18:29	231026A9

QC Report - Surrogates per Lab Sample

Lab Sample ID: **S54934.01**

Sample Tag: MW-23-161_102423

Collected Date/Time: 10/24/2023 11:50

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231025A9, Run Date: 10/25/2023 17:56, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.1	80.0	124.0
1,2-Dichloroethane-D4		95.2	72.0	125.0
Toluene-D8		96.8	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: **S54934.02**

Sample Tag: MW-23-162_102423

Collected Date/Time: 10/24/2023 12:55

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231025A9, Run Date: 10/25/2023 18:15, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		92.4	80.0	124.0
1,2-Dichloroethane-D4		88.5	72.0	125.0
Toluene-D8		96.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: **S54934.03**

Sample Tag: MW-23-163_102423

Collected Date/Time: 10/24/2023 14:10

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231025A9, Run Date: 10/25/2023 18:36, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.1	80.0	124.0
1,2-Dichloroethane-D4		94.3	72.0	125.0
Toluene-D8		96.7	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: **S54934.04**

Sample Tag: MW-22-155_102423

Collected Date/Time: 10/24/2023 15:20

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231025A9, Run Date: 10/25/2023 18:56, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.3	80.0	124.0
1,2-Dichloroethane-D4		97.1	72.0	125.0
Toluene-D8		96.9	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S54934.05

Sample Tag: MW-14-58R_102423

Collected Date/Time: 10/24/2023 13:00

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231025A9, Run Date: 10/25/2023 19:15, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.9	80.0	124.0
1,2-Dichloroethane-D4		90.2	72.0	125.0
Toluene-D8		96.6	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: **S54934.06**

Sample Tag: MW-22-153_102423

Collected Date/Time: 10/24/2023 14:00

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231025A9, Run Date: 10/25/2023 19:34, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.4	80.0	124.0
1,2-Dichloroethane-D4		95.2	72.0	125.0
Toluene-D8		96.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: **S54934.07**

Sample Tag: MW-22-156_102423

Collected Date/Time: 10/24/2023 15:15

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231025A9, Run Date: 10/25/2023 21:12, Matrix: WW, Dilution: 10

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.6	80.0	124.0
1,2-Dichloroethane-D4		90.3	72.0	125.0
Toluene-D8		95.5	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: **S54934.08**

Sample Tag: MW-22-157_102423

Collected Date/Time: 10/24/2023 16:30

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231025A9, Run Date: 10/25/2023 19:54, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.2	80.0	124.0
1,2-Dichloroethane-D4		93.6	72.0	125.0
Toluene-D8		96.3	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: **S54934.09**

Sample Tag: DUP-03_102423

Collected Date/Time: 10/24/2023 00:01

Matrix: Groundwater

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231025A9, Run Date: 10/25/2023 20:13, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.4	80.0	124.0
1,2-Dichloroethane-D4		94.8	72.0	125.0
Toluene-D8		97.0	89.0	112.0

Lab Sample ID: S54934.10

Sample Tag: Trip Blank

Collected Date/Time: 10/24/2023 00:01

Matrix: Water

COC Reference:

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 231025A9, Run Date: 10/25/2023 14:58, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		92.5	80.0	124.0
1,2-Dichloroethane-D4		87.4	72.0	125.0
Toluene-D8		95.2	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF231025W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 231025A9.BLKW25A

Run in Batch: 231025A9, Run Date: 10/25/2023 13:31, Prep Date: 10/25/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.0	80.0	124.0
1,2-Dichloroethane-D4		89.5	72.0	125.0
Toluene-D8		95.8	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 231025A9.LCSW25A

Run in Batch: 231025A9, Run Date: 10/25/2023 12:12, Prep Date: 10/25/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.4	80.0	124.0
1,2-Dichloroethane-D4		82.0	72.0	125.0
Toluene-D8		95.9	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231025A9.LCSDW25A, Parent Sample ID: 231025A9.LCSW25A

Run in Batch: 231025A9, Run Date: 10/25/2023 12:32, Prep Date: 10/25/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		96.1	80.0	124.0
1,2-Dichloroethane-D4		88.6	72.0	125.0
Toluene-D8		96.1	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS231026W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 231026A9.BLKS26A

Run in Batch: 231026A9, Run Date: 10/26/2023 15:09, Prep Date: 10/26/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample (LCS)

Lab Sample ID: 231026A9.LCSDS26A

Run in Batch: 231026A9, Run Date: 10/26/2023 13:46, Prep Date: 10/26/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231026A9.LCSDS26X, Parent Sample ID: 231026A9.LCSDS26A

Run in Batch: 231026A9, Run Date: 10/26/2023 14:27, Prep Date: 10/26/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231025W1

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

Blank (BLK)

Lab Sample ID: 231025A9.BLKW25A

Run in Batch: 231025A9, Run Date: 10/25/2023 13:31, Prep Date: 10/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	1.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231025W1 (continued)

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

Blank (BLK) (continued)

Lab Sample ID: 231025A9.BLKW25A

Run in Batch: 231025A9, Run Date: 10/25/2023 13:31, Prep Date: 10/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 231025A9.LCSW25A

Run in Batch: 231025A9, Run Date: 10/25/2023 12:12, Prep Date: 10/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		102.6	67.4	121.2
Acetone		100.6	29.9	161.5
Methyl iodide		98.5	68.8	116.4
Carbon disulfide		103.5	63.8	137.4
tert-Methyl butyl ether (MTBE)		91.2	73.2	122.4
Acrylonitrile		116.9	69.9	128.9
2-Butanone (MEK)		118.8	44.0	134.4
Dichlorodifluoromethane		95.9	10.0	222.8
Chloromethane		97.6	23.8	166.5
Vinyl chloride		103.5	43.5	149.1
Bromomethane		103.0	56.8	151.3
Chloroethane		106.5	53.4	149.4
Trichlorofluoromethane		101.4	59.7	151.8
1,1-Dichloroethene		98.9	69.6	139.4
Methylene chloride		98.0	73.3	121.1
trans-1,2-Dichloroethene		97.9	73.6	129.3
1,1-Dichloroethane		99.5	71.5	126.2
cis-1,2-Dichloroethene		100.1	76.6	122.1
Tetrahydrofuran		103.4	59.0	117.9
Chloroform		99.2	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231025W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231025A9.LCSW25A

Run in Batch: 231025A9, Run Date: 10/25/2023 12:12, Prep Date: 10/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		98.2	78.2	120.8
1,1,1-Trichloroethane		97.9	79.4	130.9
4-Methyl-2-pentanone (MIBK)		106.3	71.6	125.2
2-Hexanone		112.0	55.4	136.9
Carbon tetrachloride		106.7	72.6	133.0
Benzene		108.2	79.9	124.9
1,2-Dichloroethane		99.3	76.0	126.3
Trichloroethene		105.2	79.7	124.2
1,2-Dichloropropane		107.1	78.6	126.4
Bromodichloromethane		106.7	80.4	128.2
Dibromomethane		101.8	76.9	122.1
cis-1,3-Dichloropropene		104.9	79.8	129.9
Toluene		109.1	79.8	124.5
trans-1,3-Dichloropropene		103.5	74.0	131.3
1,1,2-Trichloroethane		108.2	78.7	123.1
Tetrachloroethene		105.9	74.5	124.5
trans-1,4-Dichloro-2-butene		104.7	68.6	135.4
Dibromochloromethane		104.7	74.6	127.2
1,2-Dibromoethane		107.8	70.3	133.7
Chlorobenzene		109.1	79.2	122.7
1,1,1,2-Tetrachloroethane		105.3	80.3	128.2
Ethylbenzene		109.3	79.5	129.1
p,m-Xylene		111.0	79.4	132.2
o-Xylene		108.3	80.2	131.0
Styrene		110.3	69.5	126.7
Isopropylbenzene		108.8	74.4	121.5
Bromoform		102.4	69.4	128.0
1,1,2,2-Tetrachloroethane		112.2	79.8	126.3
1,2,3-Trichloropropane		109.4	78.3	138.8
n-Propylbenzene		111.4	82.0	130.7
Bromobenzene		106.0	78.7	124.6
1,3,5-Trimethylbenzene		108.7	81.3	128.9
tert-Butylbenzene		106.5	80.7	128.9
1,2,4-Trimethylbenzene		107.6	81.4	130.8
sec-Butylbenzene		110.2	77.4	129.8
p-Isopropyltoluene		109.7	79.8	137.5
1,3-Dichlorobenzene		109.8	77.0	131.3
1,4-Dichlorobenzene		107.8	20.7	137.7
1,2-Dichlorobenzene		106.2	10.0	166.2
1,2,3-Trimethylbenzene		107.3	76.3	124.2
n-Butylbenzene		114.1	80.0	133.3
Hexachloroethane		102.9	23.8	138.1
1,2-Dibromo-3-chloropropane		107.4	21.2	189.4
1,2,4-Trichlorobenzene		104.7	27.4	143.4
1,2,3-Trichlorobenzene		105.6	75.4	131.4
Naphthalene		103.5	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231025W1 (continued)

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

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 231025A9.LCSW25A

Run in Batch: 231025A9, Run Date: 10/25/2023 12:12, Prep Date: 10/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		92.6	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231025A9.LCSDW25A, Parent Sample ID: 231025A9.LCSW25A

Run in Batch: 231025A9, Run Date: 10/25/2023 12:32, Prep Date: 10/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		107.9	67.4	121.2	5.0	30.0
Acetone		95.8	29.9	161.5	5.0	30.0
Methyl iodide		98.8	68.8	116.4	0.3	30.0
Carbon disulfide		101.0	63.8	137.4	2.5	30.0
tert-Methyl butyl ether (MTBE)		97.4	73.2	122.4	6.6	30.0
Acrylonitrile		119.2	69.9	128.9	2.0	30.0
2-Butanone (MEK)		119.5	44.0	134.4	0.6	30.0
Dichlorodifluoromethane		93.1	10.0	222.8	2.9	30.0
Chloromethane		97.9	23.8	166.5	0.3	30.0
Vinyl chloride		99.8	43.5	149.1	3.7	30.0
Bromomethane		103.2	56.8	151.3	0.2	30.0
Chloroethane		104.6	53.4	149.4	1.8	30.0
Trichlorofluoromethane		98.7	59.7	151.8	2.7	30.0
1,1-Dichloroethene		96.1	69.6	139.4	2.9	30.0
Methylene chloride		101.1	73.3	121.1	3.1	30.0
trans-1,2-Dichloroethene		98.3	73.6	129.3	0.4	30.0
1,1-Dichloroethane		99.1	71.5	126.2	0.4	30.0
cis-1,2-Dichloroethene		101.5	76.6	122.1	1.4	30.0
Tetrahydrofuran		101.5	59.0	117.9	1.8	30.0
Chloroform		100.2	78.4	124.0	1.0	30.0
Bromochloromethane		104.5	78.2	120.8	6.3	30.0
1,1,1-Trichloroethane		96.2	79.4	130.9	1.7	30.0
4-Methyl-2-pentanone (MIBK)		105.8	71.6	125.2	0.5	30.0
2-Hexanone		108.6	55.4	136.9	3.0	30.0
Carbon tetrachloride		102.9	72.6	133.0	3.6	30.0
Benzene		107.6	79.9	124.9	0.5	30.0
1,2-Dichloroethane		104.4	76.0	126.3	5.1	30.0
Trichloroethene		103.5	79.7	124.2	1.6	30.0
1,2-Dichloropropane		110.5	78.6	126.4	3.1	30.0
Bromodichloromethane		110.7	80.4	128.2	3.7	30.0
Dibromomethane		107.7	76.9	122.1	5.6	30.0
cis-1,3-Dichloropropene		109.3	79.8	129.9	4.1	30.0
Toluene		109.1	79.8	124.5	0.1	30.0
trans-1,3-Dichloropropene		108.7	74.0	131.3	4.9	30.0
1,1,2-Trichloroethane		114.6	78.7	123.1	5.7	30.0
Tetrachloroethene		103.3	74.5	124.5	2.5	30.0
trans-1,4-Dichloro-2-butene		103.2	68.6	135.4	1.5	30.0
Dibromochloromethane		108.3	74.6	127.2	3.3	30.0
1,2-Dibromoethane		111.5	70.3	133.7	3.4	30.0
Chlorobenzene		108.0	79.2	122.7	1.0	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF231025W1 (continued)

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

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 231025A9.LCSDW25A, Parent Sample ID: 231025A9.LCSW25A

Run in Batch: 231025A9, Run Date: 10/25/2023 12:32, Prep Date: 10/25/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		107.8	80.3	128.2	2.3	30.0
Ethylbenzene		106.9	79.5	129.1	2.2	30.0
p,m-Xylene		107.5	79.4	132.2	3.1	30.0
o-Xylene		108.0	80.2	131.0	0.3	30.0
Styrene		111.3	69.5	126.7	0.9	30.0
Isopropylbenzene		104.8	74.4	121.5	3.8	30.0
Bromoform		105.3	69.4	128.0	2.8	30.0
1,1,2,2-Tetrachloroethane		115.3	79.8	126.3	2.7	30.0
1,2,3-Trichloropropane		112.2	78.3	138.8	2.6	30.0
n-Propylbenzene		108.6	82.0	130.7	2.5	30.0
Bromobenzene		108.4	78.7	124.6	2.2	30.0
1,3,5-Trimethylbenzene		106.3	81.3	128.9	2.3	30.0
tert-Butylbenzene		102.7	80.7	128.9	3.7	30.0
1,2,4-Trimethylbenzene		106.8	81.4	130.8	0.8	30.0
sec-Butylbenzene		104.7	77.4	129.8	5.1	30.0
p-Isopropyltoluene		105.7	79.8	137.5	3.7	30.0
1,3-Dichlorobenzene		107.5	77.0	131.3	2.1	30.0
1,4-Dichlorobenzene		108.6	20.7	137.7	0.8	30.0
1,2-Dichlorobenzene		108.6	10.0	166.2	2.2	30.0
1,2,3-Trimethylbenzene		106.2	76.3	124.2	1.1	30.0
n-Butylbenzene		107.7	80.0	133.3	5.7	30.0
Hexachloroethane		99.5	23.8	138.1	3.3	30.0
1,2-Dibromo-3-chloropropane		105.6	21.2	189.4	1.7	30.0
1,2,4-Trichlorobenzene		105.1	27.4	143.4	0.5	30.0
1,2,3-Trichlorobenzene		105.6	75.4	131.4	0.1	30.0
Naphthalene		103.8	32.9	135.8	0.3	30.0
2-Methylnaphthalene		93.4	25.5	165.5	0.9	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VS231026W1

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

Blank (BLK)

Lab Sample ID: 231026A9.BLKS26A

Run in Batch: 231026A9, Run Date: 10/26/2023 15:09, Prep Date: 10/26/2023, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	0.37	0.02	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 231026A9.LCSDS26A

Run in Batch: 231026A9, Run Date: 10/26/2023 13:46, Prep Date: 10/26/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		84.9	70.0	130.0

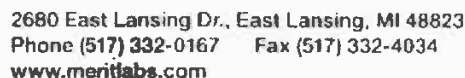
Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 231026A9.LCSDS26X, Parent Sample ID: 231026A9.LCSDS26A

Run in Batch: 231026A9, Run Date: 10/26/2023 14:27, Prep Date: 10/26/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		89.0	70.0	130.0	4.7	30.0

2



OF

INVOICE TO

CONTACT NAME		E-MAIL ADDRESS	
COMPANY		PHONE NO.	
ADDRESS		CITY	
STATE		ZIP CODE	
tiffany.linder@arcadis.com			

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

[illegible][illegible]

RELINQUISHED BY SIGNATURE/ORGANIZATION			DATE 10/24/03		TIME 16
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE 10/24/03		TIME 1655
SEAL NO.	SEAL INTACT YES () NO ()	INITIALS	NOTES	TEMP. ON ARRIVAL	
SEAL NO.	SEAL INTACT YES () NO ()	INITIALS		2.8	

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Attachment 3

Groundwater Sampling Logs

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-14-58R	Date	02/10/2022		
Project Name/Location	RACER Lansing GWS		Weather(°F)	30.0 degrees F and Haze. The wind is blowing W/SW at 12.8 mph.			
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	13.84	Total Depth (ft-bmp)	29.6	Water Column (ft)	15.76	Gallons in Well	2.56
Purge Start	10:50	Pump Intake (ft-bmp)	27.1	Purge Method	Low-Flow	Purge Equipment	Peristaltic
Purge End	11:25	Volumes Purged	0.72	Sample ID	MW-14-58R_021022	Sampled by	Austin Westhuis
Sample Time	11:20	Gallons Purged	1.85	Replicate/ Code No.	NA	Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
10:55	0	0	200	13.84	0.26	7.03	1.48	24.6	0.31	7	-35.2	--	--
11:00	5	5	200	13.84	0.53	7.03	1.48	10.6	0.22	7.2	-42.8	--	--
11:05	5	10	200	13.84	0.79	7.03	1.46	3.63	0.2	7.1	-47.8	--	--
11:10	5	15	200	13.84	1.06	7.03	1.48	2.21	0.19	7.2	-51.8	--	--
11:15	5	20	200	13.84	1.32	7.03	1.47	2.01	0.19	7.2	-54.8	--	--
11:20	5	25	200	13.84	1.59	7.04	1.46	1.77	0.19	7.1	-55.8	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8260 SIMS	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 6000B

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-14-58R	Date	2/15/2023
Project Name/Location	RACER Lansing GWS 2023		Weather(°F)	51.1 degrees F and Mostly Cloudy.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	13.17	Total Depth (ft-bmp)	29.61	Water Column (ft)	16.44
Purge Start	12:45	Pump Intake (ft-bmp)	27.11	Purge Method	Low-Flow
Purge End	13:30	Volumes Purged	0.89	Sample ID	MW-14-58R_021523
Sample Time	13:25	Gallons Purged		Replicate/ Code No.	Dup-01_021523
				Sample Type	Grab
				Well Casing Material	PVC
				Gallons in Well	2.67
				Purge Equipment	Peristaltic
				Sampled by	Austin Westhuis

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:50	0	0	200	13.17	0.26	7.26	2.777	22.6	1.21	12.9	-112.5	Clear	None
12:55	5	5	200	13.17	0.53	7.2	2.786	15.8	0.21	12.9	-131.5	Clear	None
13:00	5	10	200	13.17	0.79	7.18	2.793	11.9	0.17	13	-149	Clear	None
13:05	5	15	200	13.17	1.06	7.02	2.834	6.98	0.09	13	-154.9	Clear	None
13:10	5	20	200	13.17	1.32	7.01	2.842	7.01	0.07	13.1	-162.3	Clear	None
13:15	5	25	200	13.17	1.59	7.01	2.845	5.91	0.07	13	-165.2	Clear	None
13:20	5	30	200	13.17	1.85	7.01	2.841	5.43	0.07	13	-173.6	Clear	None
13:25	5	35	200	13.17	2.11	7.01	2.847	4.93	0.07	12.9	-175.1	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 2035

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-14-58R	Date	04/06/2022
Project Name/Location	RACER Lansing GWS		Weather(°F)	51.1 degrees F and Mostly Clear. The wind is blowing E at 8.1 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	12.06	Total Depth (ft-bmp)	29.59	Water Column (ft)	17.53
				Gallons in Well	2.85
Purge Start	12:00	Pump Intake (ft-bmp)	27.59	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	12:25	Volumes Purged	0.46	Sample ID	MW-14-58R_040622
				Sampled by	Austin Westhuis
Sample Time	12:20	Gallons Purged	1.32	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:05	0	0	200	12.06	0.26	6.95	1.983	4.41	0.75	9.8	-24.3	--	--
12:10	5	5	200	12.06	0.53	6.97	1.988	1.91	0.71	9.8	-35	--	--
12:15	5	10	200	12.06	0.79	6.98	1.983	1.3	0.7	9.8	-36.6	--	--
12:20	5	15	200	12.06	1.06	6.99	1.976	1.22	0.69	9.8	-37.1	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs 8260 and 1,4-Dioxane 8260	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Location ID:	MW-14-58R	Date(s):	2023-05-16	Work Order(s):	Q2 2023 GWS (Q, SA event)	
Client:	RACER	Facility:	Lansing	Facility Location:	2801 W. Saginaw St., Lansing, MI	Area: 2
Weather(°F):	CLEAR, T:76.33 °F, rH:33%, Clouds: 0%, Wind:16.11mph W			Field Technician:	J. Schulte	
Measuring Pt. Description:	Top of Inner Casing	Screen Setting (ft-bgs):	-	Casing Diameter (in):	2.00	Well Casing Material: PVC
Static Water Level (ft-bmp):	12.83	Total Depth (ft-bmp):	15.35	Water Column(ft):	2.52	Gallons in Well: 0.4032
Depth to Product (ft-bmp):	NA	Pump Intake Depth(ft-bmp):	NA	Purge Method:	Low Flow	Purging Equipment: Peristaltic Pump
Purge Start Time:	15:35	Total Volume Purged (milliliters):	10000	Sample ID:	MW-14-58R_051623	Sample Time: 16:30
Purge End Time:	16:25	Well Volumes Purged (total):	6.55	Replicate Type / Replicate ID:	NA / NA	Water Quality Meter/ ID: Hach 2100Q, YSI Pro Plus / NA
Scope of work completed?	Yes					

Time	Total Elapsed (min)	Flow Rate	Flow Rate Unit	Depth to Water (ft)	pH (S.U.)	Specific Conductivity (mS/cm ^c)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
											Color	Odor
15:40	0	200	mL/min	12.88	7.45	3.05	1.01	1.32	13.9	200.9	Clear	No Odor
15:45	5	200	mL/min	12.88	7.51	3.07	0.02	0.6	13.9	191.1	Clear	No Odor
15:50	10	200	mL/min	12.88	7.53	3.03	0.47	0.72	13.9	185.4	Clear	No Odor
15:55	15	200	mL/min	12.88	7.52	3.03	1.48	0.45	14	181.7	Clear	No Odor
16:00	20	200	mL/min	12.88	7.26	3.08	1.46	0.72	14.2	154.4	Clear	No Odor
16:05	25	200	mL/min	12.88	6.98	3.1	0.82	0.16	14.2	120.7	Clear	No Odor
16:10	30	200	mL/min	12.88	6.98	3.1	0.67	0.13	14.2	109.6	Clear	No Odor
16:15	35	200	mL/min	12.88	6.98	3.1	0.36	0.09	14.3	102.4	Clear	No Odor
16:20	40	200	mL/min	12.88	6.98	3.09	1	0.08	14.4	96.9	Clear	No Odor
16:25	45	200	mL/min	12.88	6.98	3.09	1.27	0.16	14.2	92.5	Clear	No Odor

Constituent Sampled	Container	Number	Preservative
VOC, 1,4-D	40 mL Glass	3	HCl

Comments: None

Well Information:

Well Labeled Properly: yes

Is Well in Good Condition? good

Well Inspection Comments: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute
uS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
S.U = standard units
mS/cm = milli

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-14-58R	Date	8/29/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	12.84	Total Depth (ft-bmp)	29.6	Water Column (ft)	16.76
Purge Start	15:00	Pump Intake (ft-bmp)	27.1	Purge Method	Low-Flow
Purge End	15:50	Volumes Purged	0.78	Sample ID	MW-14-58R_082923
Sample Time	15:45	Gallons Purged	2.113376	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
15:10	0	0	200	12.84	0.53	6.98	2.8	107	0.25	18.7	-49.9	Clear	None
15:15	5	5	200	12.84	0.79	6.9	2.78	32	0.17	18	-51.6	Clear	None
15:20	5	10	200	12.84	1.06	6.9	2.78	22.2	0.14	18.1	-53.4	Clear	None
15:25	5	15	200	12.84	1.32	6.91	2.73	19.5	0.14	17.2	-54.1	Clear	None
15:30	5	20	200	12.84	1.59	6.9	2.74	9.46	0.15	17.7	-54.7	Clear	None
15:35	5	25	200	12.84	1.85	6.91	2.76	8.39	0.14	18	-55.7	Clear	None
15:40	5	30	200	12.84	2.11	6.92	2.76	8.71	0.14	17.9	-57	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM,VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-14-58R	Date	09/12/2022
Project Name/Location	RACER Lansing GWS 2022		Weather(°F)	64.9 degrees F and Cloudy.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Well Casing Material	PVC				
Static Water Level (ft-bmp)	13.30	Total Depth (ft-bmp)	29.6	Water Column (ft)	16.3
Gallons in Well	2.65				
Purge Start	15:10	Pump Intake (ft-bmp)	27.1	Purge Method	Low-Flow
Purge Equipment	Peristaltic				
Purge End	15:40	Volumes Purged	0.50	Sample ID	MW-14-58R_091222
Sampled by	Austin Westhuis				
Sample Time	15:35	Gallons Purged	1.32	Replicate/ Code No.	NA
Sample Type	Grab				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
15:20	0	0	200	13.30	0.53	7.73	2.49	2.64	2.1	17.1	-45.8	--	--
15:25	5	5	200	13.30	0.79	6.95	2.59	2.14	0.22	16.7	-64.1	--	--
15:30	5	10	200	13.30	1.06	6.93	2.63	1.67	0.21	16.6	-70.5	--	--
15:35	5	15	200	13.30	1.32	6.93	2.65	1.6	0.21	16.6	-72.7	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8260 SIM	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 2035

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-14-58R	Date	10/14/2022
Project Name/Location	RACER Lansing GWS 2022		Weather(°F)	50.0 degrees F and Mostly Cloudy. The wind is blowing SW at 9.2 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	13.63	Total Depth (ft-bmp)	29.61	Water Column (ft)	15.98
Purge Start	13:50	Pump Intake (ft-bmp)	27.11	Purge Method	Low-Flow
Purge End	14:25	Volumes Purged	0.71	Sample ID	MW-14-58R_101422
Sample Time	14:20	Gallons Purged	1.85	Replicate/ Code No.	Dup-01_101422
				Sampled by	Austin Westhuis
				Purge Equipment	Peristaltic
				Well Casing Material	PVC
				Gallons in Well	2.6
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
13:55	0	0	200	13.68	0.26	7.72	2.01	14.68	0.13	15.6	-113.1	--	--
14:00	5	5	200	13.68	0.53	7.65	2.28	13.94	0.09	15.45	-128.6	--	--
14:05	5	10	200	13.68	0.79	7.31	2.2	13.34	0.08	15.29	-101.7	--	--
14:10	5	15	200	13.68	1.06	7.09	2.28	13.12	0.06	15.28	-82.6	--	--
14:15	5	20	200	13.68	1.32	7.07	2.29	12.51	0.06	15.26	-77.6	--	--
14:20	5	25	200	13.68	1.59	7.07	2.29	11.94	0.06	15.18	-77.3	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8260 SIM	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 2035

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-14-58R	Date	10/24/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	12.79	Total Depth (ft-bmp)	29.59	Water Column (ft)	16.80
Purge Start	12:00	Pump Intake (ft-bmp)	27.59	Purge Method	Low-Flow
Purge End	13:05	Volumes Purged	1.06	Sample ID	MW-14-58R_102423
Sample Time	13:00	Gallons Purged	2.9058926	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:05	0	0	200	12.79	0.26	7.17	2.648	7.69	0.27	17.3	-19.7	Clear	None
12:10	5	5	200	12.79	0.53	7.19	2.624	8.83	0.24	16.7	-68.2	Clear	None
12:15	5	10	200	12.79	0.79	7.1	2.589	11.68	0.18	16.7	-70.8	Clear	None
12:20	5	15	200	12.79	1.06	7.03	2.529	18.61	0.13	16.5	-68.1	Clear	None
12:25	5	20	200	12.79	1.32	6.99	2.516	19	0.11	16.4	-67	Clear	None
12:30	5	25	200	12.79	1.59	6.96	2.525	27	0.07	16.7	-68.1	Clear	None
12:35	5	30	200	12.79	1.85	6.95	2.512	27	0.06	16.5	-69.2	Clear	None
12:40	5	35	200	12.79	2.11	6.94	2.492	24	0.03	16.2	-70.9	Clear	None
12:45	5	40	200	12.79	2.38	6.92	2.492	16.52	0.01	16.3	-72.7	Clear	None
12:50	5	45	200	12.79	2.64	6.92	2.543	11	0	16.8	-75.5	Clear	None
12:55	5	50	200	12.79	2.91	6.92	2.545	9.94	0	16.8	-75.7	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM, VOCs	40 mL Glass	3	HCL
PFAS	250mL HDPE Plastic	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-153	Date	2/15/2023
Project Name/Location	RACER Lansing GWS 2023		Weather(°F)	52.0 degrees F and Cloudy.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	10.61	Total Depth (ft-bmp)	31.18	Water Column (ft)	20.57
Purge Start	10:30	Pump Intake (ft-bmp)	28.68	Purge Method	Low-Flow
Purge End	11:15	Volumes Purged	0.71	Sample ID	MW-22-153_021523
Sample Time	11:10	Gallons Purged		Replicate/ Code No.	NA
				Sample Type	Grab
				Well Casing Material	PVC
				Gallons in Well	3.34
				Purge Equipment	Peristaltic
				Sampled by	Austin Westhuis

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
10:35	0	0	200	10.61	0.26	6.83	2.735	15.4	0.35	12.6	-118	Clear	None
10:40	5	5	200	10.61	0.53	6.88	2.621	8.83	0.17	12.7	-133.3	Clear	None
10:45	5	10	200	10.61	0.79	6.93	2.417	3.35	0.12	12.7	-149.4	Clear	None
10:50	5	15	200	10.61	1.06	6.94	2.383	3.02	0.11	12.7	-158.6	Clear	None
10:55	5	20	200	10.61	1.32	6.95	2.353	1.81	0.1	12.8	-167.3	Clear	None
11:00	5	25	200	10.61	1.59	6.96	2.33	1.5	0.11	12.8	-173.9	Clear	None
11:05	5	30	200	10.61	1.85	6.96	2.308	1.23	0.12	12.8	-175.9	Clear	None
11:10	5	35	200	10.61	2.11	6.98	2.264	1.09	0.12	12.9	-181.6	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 2035

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-22-153	Date	04/06/2022
Project Name/Location	RACER Lansing GWS		Weather(°F)	51.1 degrees F and Mostly Clear. The wind is blowing E at 8.1 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	9.58	Total Depth (ft-bmp)	31.2	Water Column (ft)	21.62
				Gallons in Well	3.51
Purge Start	11:15	Pump Intake (ft-bmp)	29.2	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	11:50	Volumes Purged	0.53	Sample ID	MW-22-153_040622
				Sampled by	Austin Westhuis
Sample Time	11:45	Gallons Purged	1.85	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:35	0	0	200	9.58	1.06	7.09	1.56	1.77	1.26	12	-43.6	--	--
11:40	5	5	200	9.58	1.32	7.08	1.562	1.43	1.24	12.1	-46.6	--	--
11:45	5	10	200	9.58	1.59	7.08	1.557	1.21	1.22	12.1	-48.9	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs 8260 and 1,4-Dioxane 8260	40 mL Glass	3	HCL

Comments: Lost first three sets of parameter readings after tablet malfunctioned.

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute
 mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = milliv

Location ID:	MW-22-153	Date(s):	2023-05-17	Work Order(s):	Q2 2023 GWS (Q, SA event)	
Client:	RACER	Facility:	Lansing	Facility Location:	2801 W. Saginaw St., Lansing, MI	Area: 2
Weather(°F):	CLEAR, T:48.81 °F, rH:62%, Clouds: 0%, Wind:12.66mph NE			Field Technician:	Jackie Schulte	
Measuring Pt. Description:	Top of Inner Casing	Screen Setting (ft-bgs):	-	Casing Diameter (in):	2.00	Well Casing Material: PVC
Static Water Level (ft-bmp):	10.52	Total Depth (ft-bmp):	31.18	Water Column(ft):	20.66	Gallons in Well: 3.31
Depth to Product (ft-bmp):	NA	Pump Intake Depth(ft-bmp):	NA	Purge Method:	Low Flow	Purging Equipment: Peristaltic Pump
Purge Start Time:	10:20	Total Volume Purged (milliliters):	8000	Sample ID:	MW-22-153_051723	Sample Time: 11:00
Purge End Time:	10:55	Well Volumes Purged (total):	0.64	Replicate Type / Replicate ID:	NA / NA	Water Quality Meter/ ID: Hach 2100Q, YSI Pro Plus / NA
Scope of work completed?	Yes					

Time	Total Elapsed (min)	Flow Rate	Flow Rate Unit	Depth to Water (ft)	pH (S.U.)	Specific Conductivity (mS/cm ^c)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
											Color	Odor
10:25	0	200	mL/min	10.55	7.48	1.34	4.33	1.23	12.4	116	Clear	No Odor
10:30	5	200	mL/min	10.55	7.48	1.34	4.55	1.08	12.4	111.7	Clear	No Odor
10:35	10	200	mL/min	10.55	7.11	2.04	1.88	0.35	12.6	117	Clear	No Odor
10:40	15	200	mL/min	10.55	7.1	2.17	1.85	0.1	12.6	114.7	Clear	No Odor
10:45	20	200	mL/min	10.55	7.09	2.23	1.75	0.09	12.7	113.4	Clear	No Odor
10:51	26	200	mL/min	10.55	7.09	2.25	0.89	0.06	12.6	111	Clear	No Odor
10:55	30	200	mL/min	10.55	7.09	2.25	0.02	0.06	12.7	109.7	Clear	No Odor

Constituent Sampled	Container	Number	Preservative
VOCs (SW8260), 1,4-D	Clear Glass	3	HCl

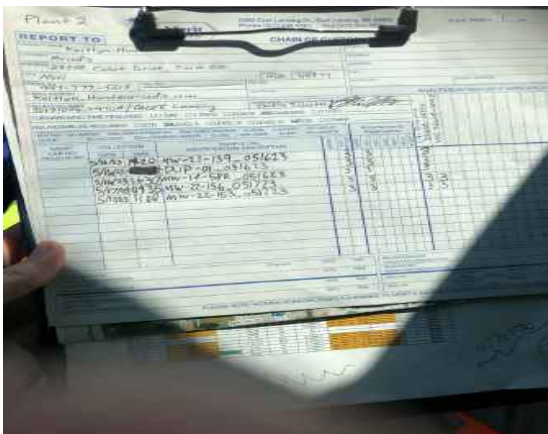
Comments: None

Well Information:

Well Labeled Properly: yes

Is Well in Good Condition? good

Well Inspection Comments: NA



Description: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute
uS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
S.U = standard units
mS/cm = milli

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-153	Date	8/29/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.33	Total Depth (ft-bmp)	31.16	Water Column (ft)	20.83
				Gallons in Well	3.38
Purge Start	13:10	Pump Intake (ft-bmp)	28.66	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	13:50	Volumes Purged	0.47	Sample ID	MW-22-153_082923
				Sampled by	Donald Richmond
Sample Time	13:45	Gallons Purged	1.585032	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
13:15	0	0	200	10.33	0.00	6.98	1.26	26.5	0.24	18.2	-16.1	Clear	None
13:20	5	5	200	10.33	0.00	6.97	1.25	15.1	0.19	17.6	-31.5	Clear	None
13:25	5	10	200	10.33	0.00	6.97	1.25	11.3	0.14	17.8	-39.9	Clear	None
13:30	5	15	200	10.33	0.00	7	1.25	12.1	0.2	17.7	-45.5	Clear	None
13:35	5	20	200	10.33	0.00	7.03	1.26	12	0.19	17.8	-51.4	Clear	None
13:40	5	25	200	10.33	0.00	7.03	1.25	12.6	0.19	17.6	-55.1	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM,VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-22-153	Date	09/12/2022
Project Name/Location	RACER Lansing GWS 2022		Weather(°F)	64.9 degrees F and Cloudy.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	10.80	Total Depth (ft-bmp)	31.17	Water Column (ft)	20.37
Purge Start	14:40	Pump Intake (ft-bmp)	28.67	Purge Method	Low-Flow
Purge End	15:05	Volumes Purged	0.40	Sample ID	MW-22-153_091222
Sample Time	15:00	Gallons Purged	1.32	Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	3.31
				Purge Equipment	Peristaltic
				Sampled by	Austin Westhuis
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:45	0	0	200	10.80	0.26	6.94	1.63	2.58	0.08	15.4	-62.7	--	--
14:50	5	5	200	10.80	0.53	6.96	1.68	2.12	0.05	15.4	-69.7	--	--
14:55	5	10	200	10.80	0.79	6.96	1.67	1.9	0.05	15.1	-73.2	--	--
15:00	5	15	200	10.80	1.06	6.97	1.67	1.43	0.05	15.1	-76.1	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8260 SIM	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 2035

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-22-153	Date	10/14/2022
Project Name/Location	RACER Lansing GWS 2022		Weather(°F)	46.0 degrees F and Cloudy. The wind is blowing SW at 9.2 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	11.12	Total Depth (ft-bmp)	31.18	Water Column (ft)	20.06
Purge Start	12:10	Pump Intake (ft-bmp)	28.68	Purge Method	Low-Flow
Purge End	12:55	Volumes Purged	0.73	Sample ID	MW-22-153_101422
Sample Time	12:50	Gallons Purged	2.38	Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	3.26
				Purge Equipment	Peristaltic
				Sampled by	Austin Westhuis
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:15	0	0	200	11.16	0.26	7.13	1.49	104	0.28	14.33	-60.6	--	--
12:20	5	5	200	11.16	0.53	7.13	1.5	70.39	0.19	14.21	-62.9	--	--
12:25	5	10	200	11.16	0.79	7.13	1.5	39.11	0.16	14.19	-64.1	--	--
12:30	5	15	200	11.16	1.06	7.13	1.49	19.24	0.15	14.13	-65.2	--	--
12:35	5	20	200	11.16	1.32	7.13	1.49	12.65	0.13	14.22	-65.9	--	--
12:40	5	25	200	11.16	1.59	7.13	1.49	11.5	0.13	14.25	-66.3	--	--
12:45	5	30	200	11.16	1.85	7.13	1.49	11.22	0.13	14.2	-66.2	--	--
12:50	5	35	200	11.16	2.11	7.13	1.49	11.01	0.12	14.25	-66.3	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8260 SIM	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 2035

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-153	Date	10/24/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.78	Total Depth (ft-bmp)	31.15	Water Column (ft)	20.37
				Gallons in Well	3.31
Purge Start	13:25	Pump Intake (ft-bmp)	29.15	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	14:05	Volumes Purged	0.48	Sample ID	MW-22-153_102423
				Sampled by	Donald Richmond
Sample Time	14:00	Gallons Purged	1.585032	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
13:30	0	0	200	10.78	0.26	7.15	1.337	10	0.12	15.8	3.3	Clear	None
13:35	5	5	200	10.78	0.53	7.14	1.332	27	0.05	15.6	-15	Clear	None
13:40	5	10	200	10.78	0.79	7.11	1.309	30	0	15.2	-43.3	Clear	None
13:45	5	15	200	10.78	1.06	7.09	1.345	39.27	0	15.1	-51	Clear	None
13:50	5	20	200	10.78	1.32	7.03	1.522	38	0	15.3	-55.4	Clear	None
13:55	5	25	200	10.78	1.59	7.02	1.562	36	0	15.2	-58.7	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM,VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-155	Date	2/15/2023
Project Name/Location	RACER Lansing GWS 2023		Weather(°F)	52.0 degrees F and Cloudy.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	11.89	Total Depth (ft-bmp)	31.43	Water Column (ft)	19.54
Purge Start	11:35	Pump Intake (ft-bmp)	28.93	Purge Method	Low-Flow
Purge End	12:25	Volumes Purged	0.83	Sample ID	MW-22-155_021523
Sample Time	12:20	Gallons Purged		Replicate/ Code No.	NA
				Sample Type	Grab
				Well Casing Material	PVC
				Gallons in Well	3.18
				Purge Equipment	Peristaltic
				Sampled by	Austin Westhuis

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:40	0	0	200	11.89	0.26	6.97	1.925	576	1.38	11.8	-143.5	Clear	None
11:45	5	5	200	11.89	0.53	6.96	1.942	223	1.26	12	-159.7	Clear	None
11:50	5	10	200	11.89	0.79	6.98	1.968	108	1.26	11.9	-168.7	Clear	None
11:55	5	15	200	11.89	1.06	6.98	1.972	44.8	1.25	11.8	-171.9	Clear	None
12:00	5	20	200	11.89	1.32	6.98	1.989	19.5	1.22	12.1	-173.8	Clear	None
12:05	5	25	200	11.89	1.59	6.98	2.007	8.93	1.1	11.7	-177.3	Clear	None
12:10	5	30	200	11.89	1.85	6.98	2.001	6.55	0.94	11.8	-179.3	Clear	None
12:15	5	35	200	11.89	2.11	6.98	2.015	6.03	0.89	12	-180.5	Clear	None
12:20	5	40	200	11.89	2.38	6.99	2.02	5.79	0.86	12	-182.6	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.

Well Locked at Arrival: yes

Condition of Well: Good condition

Well Locked at Departure: yes

Well Completion: Stick-up

Key Number To Well: 2035

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Location ID:	MW-22-155	Date(s):	2023-05-17	Work Order(s):	Q2 2023 GWS (Q, SA event)	
Client:	RACER	Facility:	Lansing	Facility Location:	2801 W. Saginaw St., Lansing, MI	Area: 2
Weather(°F):	CLEAR, T:68.54 °F, rH:31%, Clouds: 0%, Wind:4.61mph N			Field Technician:	Jackie Schulte	
Measuring Pt. Description:	Top of Inner Casing	Screen Setting (ft-bgs):	-	Casing Diameter (in):	2.00	Well Casing Material: PVC
Static Water Level (ft-bmp):	11.82	Total Depth (ft-bmp):	31.5	Water Column(ft):	19.68	Gallons in Well: 3.1488
Depth to Product (ft-bmp):	NA	Pump Intake Depth(ft-bmp):	NA	Purge Method:	Low Flow	Purging Equipment: Peristaltic Pump
Purge Start Time:	12:00	Total Volume Purged (milliliters):	11000	Sample ID:	MW-22-155_051723	Sample Time: 13:06
Purge End Time:	13:05	Well Volumes Purged (total):	0.92	Replicate Type / Replicate ID:	NA / NA	Water Quality Meter/ ID: Hach 2100Q, YSI Pro Plus / NA
Scope of work completed?	Yes					

Time	Total Elapsed (min)	Flow Rate	Flow Rate Unit	Depth to Water (ft)	pH (S.U.)	Specific Conductivity (mS/cm ^c)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
											Color	Odor
12:05	0	200	mL/min	11.9	6.21	0	31.6	9.18	19.2	-255.1	Clear	No Odor
12:10	5	200	mL/min	11.9	6.01	0	37.9	9.33	18.6	-240.1	Clear	No Odor
12:15	10	200	mL/min	11.9	5.96	0	51.2	9.2	18.5	-239.5	Clear	No Odor
12:20	15	200	mL/min	11.9	5.8	0	63	8.79	18.9	-245.4	Clear	No Odor
12:25	20	200	mL/min	11.9	5.66	0	60.2	8.58	19.2	-264.5	Clear	No Odor
12:33	28	200	mL/min	11.9	7.14	0	47.5	10.08	16.4	48.6	Clear	No Odor
12:38	33	200	mL/min	11.9	6.87	0	50.6	8.93	18.3	28.1	Clear	No Odor
12:43	38	200	mL/min	11.9	6.75	0	42.6	8.49	19.2	15.1	Clear	No Odor
12:48	43	200	mL/min	11.9	6.58	0	40.3	8.25	19.7	-5	Clear	No Odor
12:53	48	200	mL/min	11.9	6.62	0	43.5	8.1	20	-55.9	Clear	No Odor
13:01	56	200	mL/min	11.9	7.91	0	39.8	7.9	20.1	-64	Clear	No Odor

Constituent Sampled	Container	Number	Preservative
VOCs, 1,4-D	Clear Glass	3	HCl

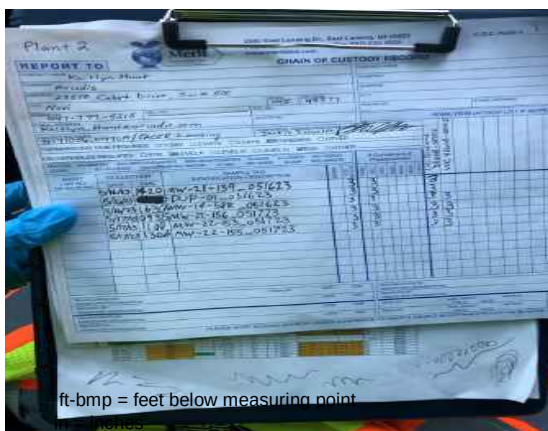
Comments: None

Well Information:

Well Labeled Properly: yes

Is Well in Good Condition? good

Well Inspection Comments: NA



Description: NA

ft-bmp = feet below measuring point

ft = feet

mL/min = milliliters per minute

uS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

S.U. = standard units

mS/cm = milli

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-155	Date	8/29/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	11.63	Total Depth (ft-bmp)	31.5	Water Column (ft)	19.87
				Gallons in Well	3.23
Purge Start	11:50	Pump Intake (ft-bmp)	29	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	12:25	Volumes Purged	0.41	Sample ID	MW-22-155_082923
				Sampled by	Donald Richmond
Sample Time	12:20	Gallons Purged	1.32086	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:05	0	0	200	11.63	0.79	6.88	1.9	98	2.04	20.1	-45.5	Clear	None
12:10	5	5	200	11.63	1.06	6.94	1.94	102	1.96	20.5	-53.6	Clear	None
12:15	5	10	200	11.63	1.32	6.91	1.88	107	2	19	-53.8	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-22-155	Date	09/12/2022
Project Name/Location	RACER Lansing GWS 2022		Weather(°F)	61.0 degrees F and Cloudy.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	12.08	Total Depth (ft-bmp)	31.5	Water Column (ft)	19.42
Purge Start	11:20	Pump Intake (ft-bmp)	29	Purge Method	Low-Flow
Purge End	12:10	Volumes Purged	0.84	Sample ID	MW-22-155_091222
Sample Time	12:05	Gallons Purged	2.64	Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	3.16
				Purge Equipment	Peristaltic
				Sampled by	Austin Westhuis
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:25	0	0	200	12.08	0.26	7.1	1.7	512	0.66	14.2	-92.7	--	--
11:30	5	5	200	12.08	0.53	7.09	1.69	212	0.06	14.1	-99.1	--	--
11:35	5	10	200	12.08	0.79	7.08	1.69	124	0.06	14	-102	--	--
11:40	5	15	200	12.08	1.06	7.08	1.69	82.1	0.05	14.1	-104	--	--
11:45	5	20	200	12.08	1.32	7.07	1.69	31.9	0.05	14.1	-105.1	--	--
11:50	5	25	200	12.08	1.59	7.06	1.69	12.8	0.05	14	-105.7	--	--
11:55	5	30	200	12.08	1.85	7.06	1.69	4.49	0.05	14	-105.9	--	--
12:00	5	35	200	12.08	2.11	7.04	1.7	4.1	0.05	13.9	-106.5	--	--
12:05	5	40	200	12.08	2.38	7.03	1.7	3.78	0.05	13.9	-106.9	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8260 SIM	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 2035

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-22-155	Date	10/14/2022
Project Name/Location	RACER Lansing GWS 2022		Weather(°F)	43.0 degrees F and Cloudy. The wind is blowing S/SW at 11.4 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	12.41	Total Depth (ft-bmp)	31.43	Water Column (ft)	19.02
Purge Start	11:05	Pump Intake (ft-bmp)	28.93	Purge Method	Low-Flow
Purge End	11:55	Volumes Purged	0.77	Sample ID	MW-22-155_101422
Sample Time	11:50	Gallons Purged	2.38	Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	3.09
				Purge Equipment	Peristaltic
				Sampled by	Austin Westhuis
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:10	0	0	200	12.50	0.26	7.2	1.48	664.04	0.12	13.84	-83.1	--	--
11:20	10	10	200	12.50	0.79	7.19	1.48	369.72	0.1	13.82	-85.3	--	--
11:25	5	15	200	12.50	1.06	7.18	1.48	181.22	0.06	13.74	-85.3	--	--
11:30	5	20	200	12.50	1.32	7.18	1.48	53.11	0.06	13.85	-85.6	--	--
11:35	5	25	200	12.50	1.59	7.17	1.48	21.03	0.06	13.85	-85.5	--	--
11:40	5	30	200	12.50	1.85	7.17	1.48	17.94	0.06	13.61	-85.7	--	--
11:45	5	35	200	12.50	2.11	7.17	1.48	17.11	0.06	13.56	-85.6	--	--
11:50	5	40	200	12.50	2.38	7.17	1.49	16.85	0.06	13.57	-85	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8260 SIM	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 2035

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-155	Date	10/24/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)	72.0 degrees F and Cloudy. The wind is blowing W/SW at 8.1 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	11.53	Total Depth (ft-bmp)	31.5	Water Column (ft)	19.97
				Gallons in Well	3.24
Purge Start	14:35	Pump Intake (ft-bmp)	29	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	15:25	Volumes Purged	0.82	Sample ID	MW-22-155_102423
				Sampled by	Austin Westhuis
Sample Time	15:20	Gallons Purged	2.641721	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:40	0	0	200	11.59	0.26	7.04	2.285	226.45	0.21	15.3	-96	Clear	None
14:45	5	5	200	11.59	0.53	7.04	2.319	186.37	0.15	15.3	-103.3	Clear	None
14:50	5	10	200	11.59	0.79	7.03	2.341	149.65	0.13	15.3	-110.3	Clear	None
14:55	5	15	200	11.59	1.06	7.03	2.355	136.01	0.12	15.3	-111.1	Clear	None
15:00	5	20	200	11.59	1.32	7.03	2.37	101.12	0.11	15.4	-113.8	Clear	None
15:05	5	25	200	11.59	1.59	7.03	2.38	81.94	0.11	15.4	-114.3	Clear	None
15:10	5	30	200	11.59	1.85	7.03	2.402	67.35	0.11	15.3	-116.1	Clear	None
15:15	5	35	200	11.59	2.11	7.03	2.408	65.84	0.11	15.3	-116.8	Clear	None
15:20	5	40	200	11.59	2.38	7.03	2.41	64.94	0.11	15.3	-117.3	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM,VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 6000B

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute
 mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-156	Date	2/15/2023
Project Name/Location	RACER Lansing GWS 2023		Weather(°F)	53.1 degrees F and Cloudy.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	13.06	Total Depth (ft-bmp)	31.06	Water Column (ft)	18.00
Purge Start	09:35	Pump Intake (ft-bmp)	28.56	Purge Method	Low-Flow
Purge End	10:20	Volumes Purged	0.81	Sample ID	MW-22-156_021523
Sample Time	10:15	Gallons Purged		Replicate/ Code No.	NA
				Sample Type	Grab
				Well Casing Material	PVC
				Gallons in Well	2.92
				Purge Equipment	Peristaltic
				Sampled by	Austin Westhuis

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
09:40	0	0	200	13.12	0.26	7.07	1.368	3.11	3.9	12.8	5.7	Clear	None
09:45	5	5	200	13.12	0.53	6.89	1.772	2.71	0.64	12.9	-89.9	Clear	None
09:50	5	10	200	13.12	0.79	6.9	1.828	2.14	0.54	13	-108.9	Clear	None
09:55	5	15	200	13.12	1.06	6.95	1.913	1.69	0.43	13	-143.7	Clear	None
10:00	5	20	200	13.12	1.32	6.98	1.927	1.6	0.61	13.1	-154.6	Clear	None
10:05	5	25	200	13.12	1.59	7	1.953	1.45	0.61	13.2	-164.8	Clear	None
10:10	5	30	200	13.12	1.85	7.01	1.961	1.33	0.59	13.2	-166.7	Clear	None
10:15	5	35	200	13.12	2.11	7.02	1.968	1.12	0.57	13.1	-170.5	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 2035

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Location ID:	MW-22-156	Date(s):	2023-05-17	Work Order(s):	Q2 2023 GWS (Q, SA event)	
Client:	RACER	Facility:	Lansing	Facility Location:	2801 W. Saginaw St., Lansing, MI	Area: 2
Weather(°F):	CLEAR, T:45.03 °F, rH:72%, Clouds: 0%, Wind:6.91mph NE			Field Technician:	Jackie Schulte	
Measuring Pt. Description:	Top of Inner Casing	Screen Setting (ft-bgs):	-	Casing Diameter (in):	2.00	Well Casing Material: PVC
Static Water Level (ft-bmp):	12.99	Total Depth (ft-bmp):	31.6	Water Column(ft):	18.61	Gallons in Well: 2.9776
Depth to Product (ft-bmp):	NA	Pump Intake Depth(ft-bmp):	NA	Purge Method:	Low Flow	Purging Equipment: Peristaltic Pump
Purge Start Time:	9:05	Total Volume Purged (milliliters):	5000	Sample ID:	MW-22-156_051723	Sample Time: 09:35
Purge End Time:	09:35	Well Volumes Purged (total):	0.44	Replicate Type / Replicate ID:	NA / NA	Water Quality Meter/ ID: Hach 2100Q, YSI Pro Plus / NA
Scope of work completed?	Yes					

Time	Total Elapsed (min)	Flow Rate	Flow Rate Unit	Depth to Water (ft)	pH (S.U.)	Specific Conductivity (mS/cm ^c)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
											Color	Odor
09:10	0	200	mL/min	12.99	7.63	1.66	0.02	4.49	12.3	140.7	Clear	No Odor
09:15	5	200	mL/min	12.99	7.26	1.87	0.02	0.72	12.5	135	Clear	No Odor
09:20	10	200	mL/min	12.99	7.21	2.03	0.02	0.47	12.7	130.6	Clear	No Odor
09:25	15	200	mL/min	12.99	7.19	2.08	1.09	0.23	12.7	127.2	Clear	No Odor
09:30	20	200	mL/min	12.99	7.19	2.08	1.13	0.24	12.7	123.6	Clear	No Odor

Constituent Sampled	Container	Number	Preservative
VOCs (SW8260), 1,4-D	Clear Glass	3	HCl

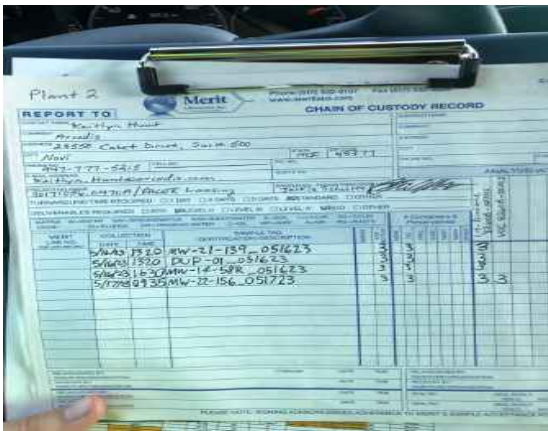
Comments: None

Well Information:

Well Labeled Properly: yes

Is Well in Good Condition? good

Well Inspection Comments: NA



Description: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute
 uS/cm = microSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter
 S.U. = standard units
 mS/cm = milli

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-156	Date	8/29/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	12.79	Total Depth (ft-bmp)	31.04	Water Column (ft)	18.25
Purge Start	14:00	Pump Intake (ft-bmp)	28.54	Purge Method	Low-Flow
Purge End	14:35	Volumes Purged	0.44	Sample ID	MW-22-156_082923
Sample Time	14:30	Gallons Purged	1.32086	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:05	0	0	200	12.79	0.26	7.16	1.15	4.42	0.27	17.5	-32.6	Clear	None
14:10	5	5	200	12.79	0.53	7.11	1.15	4.81	0.16	17.3	-43.1	Clear	None
14:15	5	10	200	12.79	0.79	7.11	1.15	5.34	0.1	17.6	-51.1	Clear	None
14:20	5	15	200	12.79	1.06	7.14	1.15	6.09	0.07	17.5	-55.5	Clear	None
14:25	5	20	200	12.79	1.32	7.14	1.15	10.2	0.07	17.4	-57.9	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM,VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-22-156	Date	09/12/2022
Project Name/Location	RACER Lansing GWS 2022		Weather(°F)	61.0 degrees F and Cloudy. The wind is blowing S/SW at 8.1 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	13.29	Total Depth (ft-bmp)	31.06	Water Column (ft)	17.77
Purge Start	10:20	Pump Intake (ft-bmp)	28.56	Purge Method	Low-Flow
Purge End	11:10	Volumes Purged	0.91	Sample ID	MW-22-156_091222
Sample Time	11:05	Gallons Purged	2.64	Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	2.89
				Purge Equipment	Peristaltic
				Sampled by	Austin Westhuis
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
10:25	0	0	200	13.29	0.26	6.65	1.78	497	7.64	15.6	59.1	--	--
10:30	5	5	200	13.29	0.53	6.74	1.7	243	7.3	15.1	22.1	--	--
10:35	5	10	200	13.29	0.79	6.83	1.57	116	6.61	15	-16.3	--	--
10:40	5	15	200	13.29	1.06	6.86	1.51	73.9	6.28	14.9	-28.9	--	--
10:45	5	20	200	13.29	1.32	6.88	1.48	39.4	6.14	14.9	-40.4	--	--
10:50	5	25	200	13.29	1.59	6.91	1.44	12.6	3.52	14.9	-52.3	--	--
10:55	5	30	200	13.29	1.85	6.92	1.42	4.12	3.35	14.8	-60.6	--	--
11:00	5	35	200	13.29	2.11	6.93	1.42	3.66	3.2	14.8	-65.9	--	--
11:05	5	40	200	13.29	2.38	6.94	1.41	3.21	3.17	14.8	-69.8	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8260 SIM	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.

Well Locked at Arrival: yes

Condition of Well: Good condition

Well Locked at Departure: yes

Well Completion: Stick-up

Key Number To Well: 2035

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-22-156	Date	10/14/2022
Project Name/Location	RACER Lansing GWS 2022		Weather(°F)	48.9 degrees F and Mostly Cloudy. The wind is blowing S at 10.3 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	13.57	Total Depth (ft-bmp)	31.06	Water Column (ft)	17.49
Purge Start	13:05	Pump Intake (ft-bmp)	28.56	Purge Method	Low-Flow
Purge End	13:40	Volumes Purged	0.65	Sample ID	MW-22-156_101422
Sample Time	13:35	Gallons Purged	1.85	Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	2.84
				Purge Equipment	Peristaltic
				Sampled by	Austin Westhuis
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
13:10	0	0	200	13.61	0.26	7.11	1.64	57.93	0.19	15.22	-58.2	--	--
13:15	5	5	200	13.61	0.53	7.12	1.49	25.28	0.13	15.32	-62.4	--	--
13:20	5	10	200	13.61	0.79	7.14	1.39	16.43	0.11	15.14	-63.7	--	--
13:25	5	15	200	13.61	1.06	7.15	1.35	13.28	0.11	15.16	-65	--	--
13:30	5	20	200	13.61	1.32	7.17	1.34	12.75	0.11	15.1	-66.6	--	--
13:35	5	25	200	13.61	1.59	7.18	1.32	12.03	0.11	15.1	-69.2	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8260 SIM	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 2035

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-156	Date	10/24/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	12.71	Total Depth (ft-bmp)	31.04	Water Column (ft)	18.33
Purge Start	14:15	Pump Intake (ft-bmp)	29.04	Purge Method	Low-Flow
Purge End	15:20	Volumes Purged	0.98	Sample ID	MW-22-156_102423
Sample Time	15:15	Gallons Purged	2.9058926	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:25	0	0	200	12.71	0.53	7.3	1.219	35	0.32	18.7	-16.2	Clear	None
14:30	5	5	200	12.71	0.79	7.16	1.51	89	0.08	18.6	61.9	Clear	None
14:35	5	10	200	12.71	1.06	7.13	1.639	187	0.01	18.5	-73.4	Clear	None
14:40	5	15	200	12.71	1.32	7.13	1.655	218	0	18.5	-76.1	Clear	None
14:45	5	20	200	12.71	1.59	7.12	1.67	255	0	18.5	-77.9	Clear	None
14:50	5	25	200	12.71	1.85	7.12	1.674	274	0	18.4	-81	Clear	None
14:55	5	30	200	12.71	2.11	7.12	1.67	300	0	18.2	-83.4	Clear	None
15:00	5	35	200	12.71	2.38	7.1	1.698	45	0	18.3	-84.9	Clear	None
15:05	5	40	200	12.71	2.64	7.1	1.702	193	0	18.2	-86.8	Clear	None
15:10	5	45	200	12.71	2.91	7.1	1.699	261	0	18.2	-88.3	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM,VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-157	Date	2/15/2023
Project Name/Location	RACER Lansing GWS 2023		Weather(°F)	48.0 degrees F and Cloudy.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	2.63	Total Depth (ft-bmp)	27.61	Water Column (ft)	24.98
				Gallons in Well	4.06
Purge Start	14:00	Pump Intake (ft-bmp)	25.11	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	14:35	Volumes Purged	0.46	Sample ID	MW-22-157_021523
				Sampled by	Austin Westhuis
Sample Time	14:30	Gallons Purged		Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:05	0	0	200	2.63	0.26	6.95	1.948	2.96	0.19	12.7	-105.5	Clear	None
14:10	5	5	200	2.63	0.53	6.98	1.96	2.44	0.15	12.8	-126.7	Clear	None
14:15	5	10	200	2.63	0.79	7	1.968	2.34	0.11	12.9	-140.6	Clear	None
14:20	5	15	200	2.63	1.06	7.01	1.974	2.08	0.12	12.9	-150.9	Clear	None
14:25	5	20	200	2.63	1.32	7.01	1.977	1.68	0.11	12.9	-155.6	Clear	None
14:30	5	25	200	2.63	1.59	7.01	1.986	1.61	0.11	13	-157.7	Clear	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Flush mount	Key Number To Well: 2035

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Location ID:	MW-22-157	Date(s):	2023-05-17	Work Order(s):	Q2 2023 GWS (Q, SA event)	
Client:	RACER	Facility:	Lansing	Facility Location:	2801 W. Saginaw St., Lansing, MI	Area: 2
Weather(°F):	CLEAR, T:56.5 °F, rH:50%, Clouds: 0%, Wind:11.5mph N-NE			Field Technician:	Jackie Schulte	
Measuring Pt. Description:	Top of Inner Casing	Screen Setting (ft-bgs):	-	Casing Diameter (in):	2.00	Well Casing Material: PVC
Static Water Level (ft-bmp):	2.5	Total Depth (ft-bmp):	27.63	Water Column(ft):	25.13	Gallons in Well: 4.02
Depth to Product (ft-bmp):	NA	Pump Intake Depth(ft-bmp):	NA	Purge Method:	Low Flow	Purging Equipment: Peristaltic Pump
Purge Start Time:	14:20	Total Volume Purged (milliliters):	10000	Sample ID:	MW-22-157_051723	Sample Time: 15:10
Purge End Time:	15:06	Well Volumes Purged (total):	0.66	Replicate Type / Replicate ID:	NA / NA	Water Quality Meter/ ID: Hach 2100Q, YSI Pro Plus / NA
Scope of work completed?	Yes					

Time	Total Elapsed (min)	Flow Rate	Flow Rate Unit	Depth to Water (ft)	pH (S.U.)	Specific Conductivity (mS/cm ^c)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance	
											Color	Odor
14:25	0	200	mL/min	2.58	7.18	1.284	0.02	4.3	14	216	Clear	No Odor
14:30	5	200	mL/min	2.58	7.21	1.285	0.3	4.24	13.9	198.8	Clear	No Odor
14:35	10	200	mL/min	2.58	6.97	1.441	1.56	1.4	14.1	-2	Clear	No Odor
14:40	15	200	mL/min	2.58	6.98	1.455	1.48	0.56	14	-16.1	Clear	No Odor
14:45	20	200	mL/min	5.58	6.99	1.452	2.27	0.58	14.1	-22.9	Clear	No Odor
14:50	25	200	mL/min	2.58	6.99	1.477	0.02	0.37	14.1	-42.1	Clear	No Odor
14:55	30	200	mL/min	2.58	7	1.482	0.75	0.29	14.1	-51	Clear	No Odor
15:00	35	200	mL/min	2.58	7	1.482	0.18	0.27	14.1	-55.5	Clear	No Odor
15:05	40	200	mL/min	2.58	7	1.482	0.58	0.23	14.1	-59.6	Clear	No Odor

Constituent Sampled	Container	Number	Preservative
1,4-D	Clear Glass	3	HCl

Comments: None

Well Information:

Well Labeled Properly: yes

Is Well in Good Condition? good

Well Inspection Comments: NA



Description: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute
uS/cm = microSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
S.U = standard units
mS/cm = milli

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-157	Date	8/29/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	2.37	Total Depth (ft-bmp)	27.61	Water Column (ft)	25.24
				Gallons in Well	4.10
Purge Start	10:10	Pump Intake (ft-bmp)	25.11	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	11:15	Volumes Purged	0.71	Sample ID	MW-22-157_082923
				Sampled by	Donald Richmond
Sample Time	11:10	Gallons Purged	2.9058926	Replicate/ Code No.	DUP-06_082923
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
10:20	0	0	200	2.37	0.53	6.87	1.25	1.43	0.5	19.6	134.4	Clear	None
10:25	5	5	200	2.37	0.79	6.87	1.22	1.86	0.43	18.5	126.6	Clear	None
10:30	5	10	200	2.37	1.06	6.87	1.23	5.96	0.39	18.5	113.5	Clear	None
10:35	5	15	200	2.37	1.32	6.88	1.26	8.82	0.3	18.8	105.2	Clear	None
10:40	5	20	200	2.37	1.59	6.81	1.39	25.5	0.16	18.4	51.6	Clear	None
10:45	5	25	200	2.37	1.85	6.81	1.45	26.6	0.14	18.4	15.6	Clear	None
10:50	5	30	200	2.37	2.11	6.84	1.46	21.7	0.13	18.2	-17.7	Clear	None
10:55	5	35	200	2.37	2.38	6.86	1.45	18.8	0.12	18.3	-29.1	Clear	None
11:00	5	40	200	2.37	2.64	6.88	1.44	16.5	0.11	18.2	-30.8	Clear	None
11:05	5	45	200	2.37	2.91	6.9	1.44	15.1	0.1	18.4	-34.3	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM,VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-22-157	Date	09/12/2022
Project Name/Location	RACER Lansing GWS 2022		Weather(°F)	64.9 degrees F and Cloudy. The wind is blowing S at 9.2 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Well Casing Material	PVC				
Static Water Level (ft-bmp)	2.75	Total Depth (ft-bmp)	27.55	Water Column (ft)	24.8
Gallons in Well	4.03				
Purge Start	13:45	Pump Intake (ft-bmp)	25.05	Purge Method	Low-Flow
Purge Equipment	Peristaltic				
Purge End	14:10	Volumes Purged	0.33	Sample ID	MW-22-157_091222
Sampled by	Austin Westhuis				
Sample Time	14:10	Gallons Purged	1.32	Replicate/ Code No.	NA
Sample Type	Grab				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
13:50	0	0	200	2.75	0.26	7.06	1.48	3.09	0.2	16.7	-96.9	--	--
13:55	5	5	200	2.75	0.53	7.03	1.47	2.16	0.25	16.4	-95.7	--	--
14:00	5	10	200	2.75	0.79	7.02	1.47	1.77	0.23	16.4	-95.5	--	--
14:05	5	15	200	2.75	1.06	7.01	1.46	1.51	0.23	16.6	-95.2	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8260 SIM	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Flush mount	Key Number To Well: 2035

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30112892	Well ID	MW-22-157	Date	10/14/2022
Project Name/Location	RACER Lansing GWS 2022		Weather(°F)	41.0 degrees F and Cloudy.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
Static Water Level (ft-bmp)	3.08	Total Depth (ft-bmp)	27.61	Water Column (ft)	24.53
Purge Start	09:50	Pump Intake (ft-bmp)	25.11	Purge Method	Low-Flow
Purge End	10:35	Volumes Purged	0.60	Sample ID	MW-22-157_101422
Sample Time	10:25	Gallons Purged	2.38	Replicate/ Code No.	NA
				Well Casing Material	PVC
				Gallons in Well	3.99
				Purge Equipment	Peristaltic
				Sampled by	Austin Westhuis
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
10:05	0	0	200	3.08	0.79	7.13	1.41	25.96	0.12	15.38	-88.2	--	--
10:10	5	5	200	3.08	1.06	7.13	1.4	24.12	0.12	15.22	-89	--	--
10:15	5	10	200	3.08	1.32	7.14	1.39	21.14	0.09	15.32	-88.2	--	--
10:20	5	15	200	3.08	1.59	7.14	1.38	20.65	0.09	15.37	-87.8	--	--
10:25	5	20	200	3.08	1.85	7.14	1.36	20.01	0.09	15.38	-87.8	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8260 SIM	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: See figure.	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Flush mount	Key Number To Well: 2035

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-22-157	Date	10/24/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	2.25	Total Depth (ft-bmp)	27.55	Water Column (ft)	25.30
				Gallons in Well	4.11
Purge Start	15:35	Pump Intake (ft-bmp)	25.55	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	16:35	Volumes Purged	0.64	Sample ID	MW-22-157_102423
				Sampled by	Donald Richmond
Sample Time	16:30	Gallons Purged	2.641721	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
15:40	0	0	200	2.25	0.26	7.09	1.352	4.32	0.37	18.4	59	Clear	None
15:45	5	5	200	2.25	0.53	7.06	1.344	6.13	0.21	18	24	Clear	None
15:50	5	10	200	2.25	0.79	7.03	1.319	16	0	17.6	-19	Clear	None
15:55	5	15	200	2.25	1.06	7.01	1.304	34	0	17.3	-37.3	Clear	None
16:00	5	20	200	2.25	1.32	7	1.294	59	0	17	-44.7	Clear	None
16:05	5	25	200	2.25	1.59	6.99	1.292	121	0	17	-51.1	Clear	None
16:10	5	30	200	2.25	1.85	6.98	1.285	264	0	16.8	-56	Clear	None
16:15	5	35	200	2.25	2.11	6.97	1.291	54	0	16.5	-59.2	Clear	None
16:20	5	40	200	2.25	2.38	6.96	1.29	120	-0.22	16.4	-61.3	Clear	None
16:25	5	45	200	2.25	2.64	6.95	16.2	108	0	16.2	-63.1	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM,VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-23-161	Date	10/24/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)	64.0 degrees F and Clear. The wind is blowing SW at 10.3 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	10.57	Total Depth (ft-bmp)	27.57	Water Column (ft)	17.00
				Gallons in Well	2.76
Purge Start	11:15	Pump Intake (ft-bmp)	25.07	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	11:55	Volumes Purged	0.77	Sample ID	MW-23-161_102423
				Sampled by	Austin Westhuis
Sample Time	11:50	Gallons Purged	2.113376	Replicate/ Code No.	DUP-03_102423
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:20	0	0	200	10.68	0.26	7.05	2.226	53.55	0.72	14.8	-48.8	Clear	None
11:25	5	5	200	10.68	0.53	7.06	2.187	47.46	0.46	14.5	-53.5	Clear	None
11:30	5	10	200	10.68	0.79	7.11	1.96	39.73	0.3	14.1	-58.2	Clear	None
11:35	5	15	200	10.68	1.06	7.13	1.805	37.12	0.25	14	-62.8	Clear	None
11:40	5	20	200	10.68	1.32	7.14	1.781	23.44	0.2	14.1	-67.8	Clear	None
11:45	5	25	200	10.68	1.59	7.13	1.78	22.51	0.19	14.2	-74.7	Clear	None
11:50	5	30	200	10.68	1.85	7.13	1.78	22.19	0.19	14.1	-75.3	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM,VOCs	40 mL Glass	6	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 6000B

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-23-162	Date	10/24/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)	64.0 degrees F and Clear. The wind is blowing SW at 10.3 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	14.18	Total Depth (ft-bmp)	36.63	Water Column (ft)	22.45
				Gallons in Well	3.65
Purge Start	12:20	Pump Intake (ft-bmp)	34.13	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	13:00	Volumes Purged	0.58	Sample ID	MW-23-162_102423
				Sampled by	Austin Westhuis
Sample Time	12:55	Gallons Purged	2.113376	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:25	0	0	200	14.58	0.26	6.85	3.134	49.55	0.83	14.9	1.6	Clear	None
12:30	5	5	200	15.93	0.53	6.85	3.119	99.08	0.24	14.2	-7	Clear	None
12:35	5	10	200	16.15	0.79	6.85	3.106	121.62	0.26	14.2	-4.6	Clear	None
12:40	5	15	200	16.40	1.06	6.86	3.096	77.33	0.42	14	-2.1	Clear	None
12:45	5	20	200	16.57	1.32	6.86	3.1	20.11	0.62	14.1	-0.2	Clear	None
12:50	5	25	200	16.72	1.59	6.86	3.1	19.57	0.59	14.1	-1.1	Clear	None
12:55	5	30	200	16.76	1.85	6.89	3.097	19.08	0.57	14	-4.4	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM,VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 6000B

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv

Groundwater Sampling Form



Project Number	30171056	Well ID	MW-23-163	Date	10/24/2023
Project Name/Location	RACER Lansing 2023 GWS		Weather(°F)	72.0 degrees F and Mostly Clear. The wind is blowing S at 6.9 mph.	
Measuring Pt. Description	Top of Inner Casing	MP Elevation		Casing Diameter (in)	2
				Well Casing Material	PVC
Static Water Level (ft-bmp)	13.48	Total Depth (ft-bmp)	27.23	Water Column (ft)	13.75
				Gallons in Well	2.23
Purge Start	13:35	Pump Intake (ft-bmp)	24.73	Purge Method	Low-Flow
				Purge Equipment	Peristaltic
Purge End	14:15	Volumes Purged	0.95	Sample ID	MW-23-163_102423
				Sampled by	Austin Westhuis
Sample Time	14:10	Gallons Purged	2.113376	Replicate/ Code No.	NA
				Sample Type	Grab

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallon Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
13:40	0	0	200	13.80	0.26	7.29	1.194	182.81	0.56	14.2	-87.8	Clear	None
13:45	5	5	200	13.80	0.53	7.28	1.167	145.81	0.27	14.2	-93.2	Clear	None
13:50	5	10	200	13.80	0.79	7.26	1.184	83.92	0.19	14.2	-92.1	Clear	None
13:55	5	15	200	13.80	1.06	7.26	1.186	77.66	0.16	14.2	-93.6	Clear	None
14:00	5	20	200	13.80	1.32	7.24	1.207	57.11	0.12	14.2	-99.9	Clear	None
14:05	5	25	200	13.80	1.59	7.23	1.213	56.51	0.11	14.2	-100.9	Clear	None
14:10	5	30	200	13.80	1.85	7.23	1.225	53.91	0.11	14.2	-102.4	Clear	None

Constituent Sampled	Container	Number	Preservative
1,4-Dioxane 8270D SIM,VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04; 1.5 = 0.09; 2.5 = 0.26; 3.5 = 0.50; 6 = 1.47
 1.25 = 0.06; 2 = 0.16; 3 = 0.37; 4 = 0.65

Well Information

Well Location: Plant 2	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: 6000B

ft-bmp = feet below measuring point

in = inches

ft = feet

mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter

NTU = Nephelometric Turbidity Unit

mg/L = milligrams per liter

mV = milliv